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DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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SIMON BROWN Editor.
HENRY F. FRENCH, Associate Editor.

THOUGHTS SUGGESTED BY JUNE.

JUNE, in the climate of New England, is in many respects the most pleasant month of the year, and, better than any other, realizes the "balmy sweets," the "ethereal mildness," and the universal activity and gladness of nature, which foreign writers have represented as characteristic of May.

The mornings are no longer frosty. The north-east winds have lost their chill. The air is balmy, but not as yet sultry. The forests and fields now wear their best dress—the freshest and brightest of the year. The grass, which has "come creeping, creeping," everywhere, spreading as a carpet over pasture and meadow, at once for food and repose to the "cattle upon a thousand hills," is now sweeter and softer than at any other time during the season. In a word, New England is in her glory, and to be seen to advantage, must be seen in June—early in a June morning.

The various shades of verdure, the profusion of flowers, the melody of bird, and insect song, are richer in June than during any other month of the year.

But some farmer, whose eye has followed our words thus far, may be thinking, if he does not say: "All this is fine enough for those who have plenty of money to spend in hunting out landscapes, and plenty of time to stop and admire them, but to farmers whose backs ache and whose limbs are stiff by attempting more work than they ought to do, and which they do not feel able to pay others for doing, the weeds in our fields, whose rank growth outstrips our strength, catches our eyes and blurs the beauty of the scene."

JUNE brings to farmers long days and hard work—so long and so hard that whatever of poetry there may have been in us at first, is soon sweated out, and passes off in "invisible exhalation." We know that most of the farmers of New England necessarily work hard. But we do not believe that it is necessary for them so to overtask the body as to incapacitate the mind for the enjoyments of the beauties of nature. True it is, that they have no slaves "to fan them while they sleep, or tremble when they wake," but how many servants have they obedient to their call, how many even of the very elements minister to their gratification and tend to promote their comfort and happiness.

Let us, borrowing something of the coloring of another, figure to ourselves an inhabitant of some peculiarly favored spot, with all the powers of nature contributing to his enjoyment and pleasure, —the clear, blue sky above his head, shaded occasionally by clouds which drop down fatness in fertilizing showers;—the green earth beneath his feet throwing from her bountiful lap a profusion of flowers in every form of loveliness; around him venerable trees, full of leafy honors, stretching wide their branches to afford him a grateful shelter from the meridian heat, or bearing fruit to gratify his taste; hard by, the sparkling of a cool, transparent stream, as it hastens to join the broad river, flowing majestically through meadows of emerald to lose itself in the distant ocean;—in his groves, birds of note cheer him with their sweet music;—on his lawns the lowing of cattle, on his hills the bleating of sheep;—in his stables beasts of draft to cultivate his fields, and of burden to convey him swiftly and at ease on distant journeys; in his store-houses, ingenious machines and implements, which, like "things of life," perform in the most expeditious and satisfactory manner

some of his most laborious and irksome tasks;—in his dwelling are necessary comforts and conveniences, with many of the luxuries which commerce has collected from distant climes and ingenuity has prepared for his use;—in his family a beloved partner of his bosom and dutiful children, who kindle while they reflect the glance of a parent's eye, and to whose steps all paths to usefulness and distinction are wide open.

Such is the farmer of New England! He is more than all this. He is a man in authority—a part of the government whose jurisdiction he acknowledges, and whose power he is ready to enforce with all the energy which has been acquired by the fixed habit of doing his own work and making his own laws.

For the New England Farmer.

A TROT ON THE ICE.

A trot came off on the 14th April inst., on the ice, between black mare Fanny Barrett, of this town, and bay mare Green Mountain Queen, of Bridport, Vermont. The town of Crown Point is situated on Lake Champlain, on the New York side, and Bridport on the Vermont side. The trot was on Lake Champlain, between the two places. There was a large number of people upon the ice to witness this trot, attracted there not so much to look upon the speed of these two beautiful "nags,"—but the idea of a trot upon the ice, on the 14th day of April, excited the curiosity, and for that reason, much interest was taken. The mares made a good race, but the result became a disputed point, and was finally left unsettled. Years will roll away, before the people in this vicinity will witness a scene so novel and rare, as a horse trot upon the ice on Lake Champlain on the 14th of April.

The snow has been in this vicinity from 3 to 4½ feet deep, but now, before the genial rays of old Sol, the snow is fast wasting away, and the roar of the brook mingling with the shrill note of the bluebird, says, all hail once again, happy spring.

W. W. MOORE.

Crown Point, N. Y., April 17, 1862.

OLD TIMES AND NEW.—Compare travelling as it is now with what it was when the apostles went out. I could go around the earth and come home again quicker than Paul could go from Jerusalem to Rome in his day. In the time that was required to write one Bible in his day, I can print a million now. It cost a fortune to own a book then; now there is not a pauper in the poor-house that is not able to own a book. Literally, knowledge may said to be without money and without price; when for a penny a man may have a newspaper that covers the contemporaneous news of the globe, so that he can see more than if he were put on an exceeding high mountain—with a devil at his elbow at that, to tempt him withal. Books are cheaper than bread, and none are so poor that they cannot have the reading of the events of every single day. —*H. W. Beecher.*

BARLEY.

This valuable grain is now much cultivated in many sections of our State, and is used, not unfrequently, as a substitute for corn and wheat. The constituents of barley—taking the grain and haulm together—have, on burning, 7.04 per cent. of ashes, while the straw and grain of oats leave but 5.73 per cent. The analysis of these ashes demonstrates the position of barley, and places it in the category of silicious plants. The same remark applies, also, with equal correctness to oats—the ashes of the latter furnishing 62 per cent. of silica, and 25 per cent. of lime salts; the ashes of barley 25 per cent. of lime salts, and 55 of silica. We mention these grains in connection, because some have affected to believe that *oats* require an aliment essentially different from that demanded by other cereal grains.

Oats flourish on *any* good corn land, but barley requires a sandy, or even gravelly loam; a soil that is light and warm. Very fine barley is now brought from California, and may be purchased for 65 or 70 cents per bushel. This is probably taken as ballast, or in preference to returning with empty bottoms.

Barley has risen in the estimation of farmers, and is now cultivated more freely than it has been for many years.

THE BEST GATE.

In the *Farmer* of February 15th, an article on fencing of barn-yards, etc., says: "The best gate is made of *scantling* and boards;" to which I say as the Irishman did of his friend's dinner, which was meat and potatoes; "that it was just his, barrin' the meat." So this gate is just mine, barrin' the scantling. Formerly I used scantling, two by three, and two by four inches, for the frame of my gates; but one time, now some twelve years since, I had no scantling, and therefore built my gate, which was ten feet long, frame with strips of board, one by four inches for the latch end, and one by eight inches for the hinge end of the gate; brace, one by six inches. My lower board, one by eight inches; next above, one by six inches; next two, each one by four inches; the whole secured by wrought nails clinched, and hung with strap hinges. This gate is now, and has been all the time from its construction, in daily use, and has never sagged an inch. From that time to the present, I have always built my gates without scantling, and have found them equally as good barriers as those built with scantling, while they are lighter, cost less, and do not sag. Any one can build such a gate and hang it—the posts being set—in two hours.—*Cor. Ohio Farmer.*

WON'T GROW.—Mr. Goodale, Secretary of the Maine Board of Agriculture, in the recent discussions of the Board, stated that there is a tract of land in Maine both south and north of which Indian corn could be grown, but upon which it would not grow.

For the New England Farmer.

POTATO REMINISCENCES.

MESSRS. EDITORS:—Notwithstanding the prejudice of Cobbet, potatoes, if not a luxury, are considered by most people as an indispensable article of food. I believe, by general consent, they are considered the king of roots, and that it could have no substitute to make its place good upon the table. Since my remembrance, a great many varieties have succeeded each other, losing their popularity as better varieties made their appearance. Like men, and many other things, they have their day, and are forgotten. In the latter part of the last century, very few potatoes, comparatively, were used; aged people at that time preferred turnips to potatoes. A visitor at my father's was asked, at dinner, if he would be helped to a potato? He said, "No, I thank you, we have enough of them at home." One of the first varieties, I recollect, made a *strong* impression upon my mind, as well as my stomach; by some means or other, it was introduced extensively in this State, and it was cultivated in the State of Maine in large crops as late as 1808. This variety was called the Spanish potato, and what quality it had to commend it, unless its prolific propensity, is beyond my feeble comprehension. I got humbuged by planting potatoes of that variety. They were so strong that they were unfit for the table, and I believe animals ate them out of a sense of duty, rather than love. The man that fed my cattle with them, said that they produced a drooling and discharge of tears from their eyes, if I am correct.

Improved varieties soon followed. The English White—an excellent potato, but soon run out—had its day like a politician, and was gone. Then the purple varieties, the Orange potato, Long John, or Long Red, and numerous other varieties followed in succession, and among the rest a potato of formidable dimensions, called the "Negro potato," was introduced. The Rohans, Jenny Linds and "Contrabands" would rank well together, as a coarse, unpalatable vegetable production, unfit for human food, where better varieties can be obtained. The Chenango came into notice here more than thirty years ago, an excellent variety; it had its day, like all sublunary things; old age and the rot has nearly exterminated it from this neighborhood, and so of the Long Red. The Riley potato was a fine-flavored, mealy potato; but two or three objections were sufficient to hurt its character, viz., its sunken eyes, smallness of size, running like beads upon its roots, and its liability to rot. The Danvers Red, a fine looking potato, but, like other potatoes that are yellow inside, are hard and heavy when boiled.

I have been experimenting upon the different varieties of potatoes for the last few years, planting only those least liable to rot. I repeatedly lost my crops while trusting to the Chenangoes, Long Reds and several other kinds, by almost a total rot. The last few years I have planted the Davis seedlings, the Cracker or Jackson, and a kind resembling the old Kidney potato, I believe by some called the St. Helena. The Davis seedlings have grown a good size, very fair, handsome potatoes; a few of them have rotted. The Crackers are early to ripen, and of the finest grain, and best mealy potatoes I have seen. They require rich land, to get large ones. Their fault is sunken eyes and an unequal surface. I have planted the Kidneys six or seven years past. They grow upon almost any kind of soil to a good size, are fair, and easy to peel; they are excellent potatoes, although not so mealy as the Crackers. For the number of years I have raised them, I have not lost a half-bushel by the rot in that variety; they held out sound when Chenangoes and Long Reds nearly all rotted in the same field. I have told some of my experiences at potato raising. I can well remember the progress of potato agriculture for the last seventy years; they were much more easily raised then, than of later years. We do not get more than one-half or a third so many to the acre, as we did from fifty to seventy years ago. I think, by a careful selection, the quality may have been improved, but they have fallen off in quantity more than they have gained in quality since that time. Potatoes are the most important of our root crops, they rank number one as a vegetable for culinary purposes; they are cultivated at less expense than many other roots, and they are among the best roots for cattle and swine, when they can be afforded. SILAS BROWN.

North Wilmington, March, 1862.

For the New England Farmer.

ANCIENT AND MODERN LUXURIES.

MR. EDITOR:—We often descant upon the progress we are making in agriculture during the present century. We are apt to imagine that, in olden times, men had but few luxuries. Especially is this true when we listen to the story of the pioneers of our own country. But it so happens that a certain man lived well nigh three thousand years ago by the name of Homer. He was a person on whom as much wise nonsense and as much real learning have been displayed, and yet of whom as little is really known as of any other man. This much, however, we can say of him: that he had a way of his own in describing matters in his day.

Now this man gives us a description of the palace and garden of Alcinous, King of the Phæacians, which equals any in modern times. Perhaps your Hon. M. P. Wilder may show a greater variety of pears. Aside from this, we must give the palm to Alcinous, unless the contrary can be shown.

After describing his palace made of brazen walls, his doors of gold, the posts as well as the beam over the door of silver, with images of gold and silver, dogs wrought by Vulcan as guards to his threshold, and so made as to be imperishable, he then gives us an insight of its interior, with its couches around the walls supplied with well wrought coverings, the handiwork of women. On these reclined the nobles, who enjoyed a perpetual feast in its halls. Golden candlesticks wrought in the form of fair youths, stood above the altars to give light to the guests. Fifty female servants are employed; some to grind the apple-red colored wheat, and others to spin and weave a cloth so close that oil running down will not penetrate it. The poet even boasts that as the Phæacians excel other nations in guiding the ship over the stormy sea, so do their women excel all others in weaving. Next comes the description of his garden.

Outside the hall, and near the gates, is a large garden of four acres. Around it on all sides is a

hedge. Within are the tall green trees. The pear, the pomegranate and apple trees, with their choicest fruit, the sweet figs and blooming olives, are here. The trees abound in fruit at all seasons of the year, in summer as well as in winter. The gently blowing west wind causes some to be growing, and others to be ripening at the same time. Pear ripens after pear in succession; apple after apple; grape after grape; and fig after fig.

In one part of the garden is the vineyard, situated on a level spot, which is accessible to the rays of the sun, and filled with fruits. They are now gathering some of the grapes, while they are treading out others. Some of the vines are still in flower; the grapes on others are unripe, while others are dark colored, ready for the harvest.

In another place, the garden-beds are laid out in order, where flowers grow in perennial bloom, In the midst are two fountains, one of which serves to water the garden, spreading through it with its cool, refreshing streams, while the other flows beneath the threshold of the lofty palace.

Now, what modern orator of an agricultural fair, or what poet of modern times, has, or can excel this description of Homer, in as few words, and how few of the farmers of New England can yet boast of his garden luxuries like those here so vividly delineated in this one of four acres in a fabulous age of the world? N. T. T.

Bethel, Me., April, 1862.

For the New England Farmer.

THE BIRDS OF NEW ENGLAND---No. 18.

WARBLERS.

Black-throated Blue Warbler—Black-throated Green Warbler—Connecticut Warbler—Kentucky Warbler—Black and White Creeper—Yellow-throated Warbler—Mourning Warbler.

The BLACK-THROATED BLUE WARBLER, (*Dendroica Canadensis*, Baird; *Sylvicola Canadensis*, Swain.,) winters in Mexico and the West Indies, gradually progressing northward in spring, as the season advances. It enters South Carolina about the first of April; appears in Pennsylvania about a month later, and in New York and New England usually about the middle of May. At Springfield, I observed them very common for a few days about the 22d of May, in 1861, but they are usually considered as "wayfaring and unfrequent visitors." They are known to breed in Nova Scotia, and are found to exist in summer as far northward as Labrador. Doubtless a few nidificate in the northern parts of New England. According to De Kay, they have been seen in this latitude as late as December, returning on their way southward. In their habits they much resemble the other Warblers, being extremely active in the pursuit of those insects that constitute their food. Their song is low and somewhat peculiar, but not remarkable for melodious effect.

Length, five and a half inches; extent, seven and a half; upper parts, wholly a light blue slate; throat and upper part of the breast, black, which extends in a broad, lateral stripe to the tail; rest of the lower plumage, white; tail, with white spots on the inner veins of the exterior feathers; a spot of white at the base of the primaries of the wings. The female is so differently colored from the male as to have been described by the earlier ornithologists as a distinct species, under the name of Pine Swamp Warbler, (*Sylvia sphagnosa*, Bonap.) The distribution of the color is similar, but where the male is blue the female is a deep green olive, with bluish reflections; lower parts, pale greenish yellow, more dusky on those parts which in the male are black. Wings and tail marked with white, as in the male.

The BLACK-THROATED GREEN WARBLER, (*Dendroica virens*, Baird; *Sylvicola virens*, Swain.,) arrives from the south in May, frequenting alike the blooming orchard and the deep forest and solitary swamp, on its first arrival; feeding chiefly on the insects that at this time prey upon the opening buds and tender leaves; a few spend the summer here, being met with occasionally in the retired forests, but the greater number pass further northward, and in July have been met with in Greenland. It is a very active little bird, and like most of its congeners, is continually searching among the foliage for its winged prey; its notes are not particularly remarkable, though somewhat peculiar and pleasing. Nuttall discovered its nest in the eastern part of this State, and a number of specimens have been obtained in the vicinity of Springfield, by ornithological collectors, in June and July of the year last past.

Length four inches and three-quarters; extent, seven; above, bright yellowish-green; throat and upper part of the breast, black; streaks of the same on the sides, under the wings; belly and vent, white; two bars of white across the wings, which are dusky; exterior tail feathers spotted with white on the inner veins. In the female the colors are paler, and the black on the throat is nearly concealed by the ashy edgings of the feathers.

The CONNECTICUT WARBLER,) *Oporornis agilis*, Baird; *Sylvicola agilis*, Jardine,) is one of the rarest birds of its tribe, and comparatively little is known concerning it. It was first seen by Wilson, who first met with it in the State of Connecticut, and accordingly gave to it the name by which it is now known; and from its extreme agility he bestowed upon it the Latin specific name it now bears. This untiring ornithologist met with not more than half a dozen individuals in all his extensive travels; subsequently it has been seen in various parts of the eastern portions of the United States, but is still so rarely met with that we have no particular knowledge of its manners. By some it has been considered as the young of the Mourning Warbler, (*Geothlypis Philadelphia*,) which it is said very much to resemble, but is now, I believe, regarded generally as a distinct species.

Length, five inches and a half; extent, eight; whole upper parts, yellow olive; throat soiled white; breast, greenish-yellow; rest of the lower parts, deep yellow.

The KENTUCKY WARBLER, (*Oporornis formosus*, Baird; *Myiodioctes formosus*, Aud.; *Sylvicola formosa*, Jard.,) is a common and even abundant species in some of the Western and Southern States, but as far eastward as New York and New England it is quite rare. It is described as an extremely active and lively bird, "frequenting low, damp woods; it builds its nest in the middle of a thick tuft of rank grass, sometimes in the fork of a low bush, and sometimes on the ground." "The materials are loose, dry grass, mixed with the light pith of weeds, and lined with

hair. The female lays four, and sometimes six eggs," says Wilson, "sprinkled with specks of reddish." It hunts for its prey among bushes, and tall weeds, and grass, seldom flying farther than a few yards at a time, and seldom seizing its prey on the wing. Its song is described as lively and agreeable, resembling the words *tweedle, tweedle, tweedle*, uttered rapidly and with emphasis.

Length, four inches and a half; alar extent, six and a half; upper parts olive, with streaks of reddish on the back; under parts, rich yellow, with streaks of black on the sides; spots of white on the tail.

The BLACK AND WHITE CREEPER, (*Mniotilla varia*, Vieillot,) enters Louisiana in February from the southward, as the buds on the trees are expanding and unfolding into leaves, and in its migration northward keeps pace with the advancement of vegetation, and spreading over the United States, reaches New England about the first of May, many still passing farther north. They breed throughout the whole of this extensive region. In its scansorial habits this bird greatly resembles the true Creepers, (*Certhiæ*,) but more nearly resembles the Warblers in the form of its bill, and in many other points. It seldom perches on the twigs, but runs over the trunks of trees, in every direction, with great facility, and traverses the under sides of the larger limbs, back downward with perfect ease, carefully searching the bark and every crevice for its insect food. When it first appears in the spring, from the south, it sometimes frequents the orchard, but generally prefers the forest, where it spends the summer and rears its young. Its nest is "generally found in the hole of a tree; and is composed of dry moss, lined with downy substances. The eggs are four to seven, white, with a few reddish dots disposed around the larger end."

Length, about five and a half inches; extent, seven and a half. Whole plumage, alternate streaks and spots of black and white. Female considerably paler than the male.

The YELLOW-THROATED WARBLER, or MARYLAND YELLOW-THROAT, (*Trichas personatus*, Swain.,) is one of our most common species, appearing from the south in the early part of May, and continuing with us through the season. It prefers low woodlands, swamps, and swampy hedges and thickets, where it rears its young, placing its nest on the ground, usually concealed in a thick tuft of grass. It is composed of fine grass, lined with horse hair, and sometimes arched over. The eggs are four to six, white, with a few reddish specks around the larger end. It is not at all shy or suspicious in its behavior, but boldly scolds the intruder, especially during the season of incubation, as he chances to venture upon its favorite, secluded retreat. Though not properly to be included among our birds of song, its simple lay and oft repeated *whititítee* are far from disagreeable. It inhabits the whole eastern United States, and considerably to the northward, but is said to be particularly numerous in the swampy districts of Maryland and adjoining States.

Length, four inches and three-quarters, breadth of wing, six and a half; upper parts, greenish-olive; beneath, deep yellow, lighter on the belly; front, sides of the head and neck, black. The female is somewhat paler and has not the black.

The MOURNING WARBLER, (*Trichas Philadelphia*, Aud.; *Geothlypis Philadelphia*, Baird,) was first introduced to public notice by Wilson, who only met with a single individual, a male, which Wilson says "had a sprightly and pleasant warbling song, the novelty of which at first attracted my attention." So scarce is it that no other was seen by ornithologists for several years, and it began to be conjectured that the specimen described by Wilson might prove to be merely an accidental variety of some other species, as perhaps of the preceding, (*T. personatus*,) to which it is related. It has, however, been occasionally met with since, in various parts of eastern North America, and it afforded me not a little satisfaction a few months since, (Sept. 12th, 1861,) to meet with one of these birds, though in its autumnal or immature dress. From its excessive rarity but little is known of its habits. The individual above alluded to was darting about with great agility after flying insects, among the alders and low trees in the swamp where it was obtained.

Length, five inches; extent, eight and one-fourth; above, uniform greenish-olive; cheeks, throat and breast, buff, inclining, on the breast, to dusky; rest of the lower plumage, bright yellow; tail emarginate, and with the wings, strongly tinged with greenish-olive.

J. A. A.

Cambridge, March, 1862.

EXHIBITION OF FRUITS AND FLOWERS.

We are glad to learn that the *Concord Farmers' Club* has decided to hold an exhibition of Fruits and Flowers in that town on the third Saturday of June, the third Saturday of July, and the third Saturday of August, ensuing. But this is not, if we understand the matter correctly, to be done exclusively by the Club, as it is expected that other citizens will be joined with the members of the Club appointed to carry out the plans, and that contributions to the exhibition are expected from the citizens generally. With this view, we suggest to the good people of that town to make such preparations now as will enable them to assist in gracing the show with the productions of their flower-beds and gardens.

The occasion is to be open and free to all, either to contribute to or to visit. We predict that these exhibitions will be creditable to the citizens of the town, and occasions of interest to all, but especially so to the children.

A FOX STORY.—One day last week a party of sportsmen belonging in this city and Boston went on a fox hunting expedition to Chelmsford. On "Thanksgiving Ground" they ran a fox into his hole, and then commenced to dig for him. After working smart a number of hours, they came upon a nest of young foxes, not having their eyes open, one of which was brought away. One of the party having a litter of young kittens at his house in this city, placed this young fox with them, and it takes its nourishment with the rest, and is now doing well. The old cat purs over the little stranger, and does not seem to notice any difference between it and her own family.—*Lowell News.*

For the New England Farmer.

WORKING HOGS.

MR. EDITOR:—I saw in your last January number a short article on working hogs. It is generally believed by farmers that hogs are valuable stock to keep on a farm, not only for the flesh, but for the manure they make, and for the labor which they do on the manure heap. Now this is a grand mistake. Hogs can never create any manure; all that they can do is to leave the surplus of what you give them after taking out the nourishment of their bodies. As to their working on manure heaps, I should rather they would work on their own land, as there is nothing so injurious to a manure heap as to keep digging and stirring it over, and this is a work which many farmers want their hogs to do.

It is painful to see farmers drawing out their summer manure in the fall, and turning it down in heaps on their plowed fields, there to take the peltings of wind and storm through the winter, and then in the spring draw out their winter manure and pile it on top, then dig it over two or three times before they get it into the ground. Did you ever hear of any one offended with the smell in digging over a heap of manure managed in this way? The reason is plain; the gases go to the four winds, and its nutritious quality is wasted.

My object in these remarks is to show the farmer the loss he sustains in exposing his manure heap to the action of the air, sun and rain, and the depredations of working hogs. The success of the farmer depends very much on the amount of manure he can procure for his farm, and the easiest way to get it, is to furnish every animal about the barn with a sufficient quantity of soil, muck, or vegetable substance, to absorb all the liquid, so that nothing will ooze out and be lost; then keep the manure heap as much as possible from the action of the air and the rays of the sun, tramp it down as hard as you please, the harder the better, and one cord of such manure is worth two cords worked over repeatedly, and exposed to the wind and storm.

Farmers, try the experiment. Plow in one cord of each, side by side in your field, and you will soon be convinced. H.

Derry, N. H., March 20, 1862.

For the New England Farmer.

THE TURNIP CROP.

Although the turnip is raised and used extensively in Europe, as a valuable feed for milch cows and stock in general, yet in this country they are raised and fed very sparingly, as the prejudice against them has arisen from the fact that they impart an unpleasant taste to the milk. I admit that this is the case when first fed in the fall, "for perhaps two weeks," but continue to feed them, and after the expiration of two weeks the most particular taste cannot detect any unpleasantness in the flavor of the milk. I have kept two milch cows the past winter, principally upon English turnips; they have consumed but about 1200 pounds of hay, each cow having had one bushel of turnips and one-half bushel of carrots per day. The milk has been used in five different families, without any complaint; the cows keep in good flesh and have given a good supply of milk. The turnip crop I consider one of the most valuable for the stock farmer, as it can be raised at a very trifling expense, compared with any other crop. The turnip can be sowed after early vegetables are taken from the land. I had about an acre of land from which I took a good crop of English hay last July, I then plowed and sowed it with English strap-leaved turnip, from which I gathered the same season upwards of 200 bushels, using but 320 pounds of Mapes' super-phosphate of lime. This season I intend to sow it down with Hungarian grass, therefore losing no time, and raising the turnip at a trifling expense. J. S. I.

Salem, Feb. 12, 1862.

THE DAM AT NORTH BILLERICA.

We give below a little piece of history in relation to this dam, which is probably not generally known. At the hearing before the Legislative committee, in February last, one of the counsel for the Talbots occupied a considerable portion of his argument on the point that *no complaint* had been made by the early settlers of the town that this dam was a principal cause of the flooding of the meadows. The following facts are incontrovertible, and show what sort of agency is resorted to, to continue this unjust and wicked oppression upon an unoffending and long-suffering people.

There is no one thing that so disgraces the State of Massachusetts as the law upon her statute books, that allows the *private property of her citizens to be taken from them without their consent!* It is a shame upon her fair fame, and is sustained, entirely, by a combination of the manufacturing interests, to the great wrong of many of our best citizens, and injury to our agricultural prosperity. Let us see what are some of the facts.

His Excellency, the Governor, in his last annual address to the Legislature, called the attention of that body to the subject of flowing and draining lands in the following words:—"In this connection I desire also to call the attention of the Legislature to a measure of justice and public utility which will restore to cultivation many acres of the richest and most productive lands in the State." This subject of flowing and draining lands received the attention of the General Court early in the last century, and an act was passed in 1702, designed to relieve wet lands of their burdens, and to make them valuable to the colonists. The Commonwealth might be benefited by an act of similar import, if the provisions of it could be faithfully carried out.

The act to which allusion has been made is styled "An Act for appointing Commissioners of Sewers." The preamble to this act is stated in the following language: "Whereas, great quantities of meadows and low grounds belonging to sundry persons in several towns, are spoiled by

the overflowing of rivers, brooks and waters, occasioned by banks and stoppage in their courses, which by industry may be removed to the benefit and profit of the owners; and also much meadow and pasture land might be gained out of swamps and other rough and unprofitable grounds by draining the same: To the intent that the owners of such lands and meadows may be encouraged and enabled to remove such obstructions as occasion such overflows, and to drain and flow their swamps, and other grounds, and thereby bring them to meadow or pasture, that they may be profitable to them, Be it enacted, &c., that it shall be in the power of the Governor and Council, from time to time, upon request to them made by the major part of the proprietors of any such lands, to grant commissioners of sewers to such and so many able and discreet persons as to them shall seem meet for the clearing and removing of the banks and obstructions of the passage of the waters in rivers, brooks or ponds that occasion the overflows of and drowning of low meadows and lands."

From this extract, the general intent of the law is manifest. This law was not allowed to remain a dead letter upon the statute book. Commissioners of Sewers were appointed. One of the streams which they were directed by the Governor and Council to visit, upon the petition of landowners, was Concord river. The meadow-owners upon this stream, about the year 1720, represented to the Governor and Council that their lands were overflowed, and prayed to be relieved. A commission of three were appointed and directed to visit this stream, in order to determine by their own observation, the condition of the river. This commission reported to the Governor and Council. In their report they say that they "visited and sounded said river, or a great part of it, and made the best endeavor we could to find out what and where the obstructions were, that caused the overflow of the said river, to the spoiling of the meadows of Concord and Sudbury." They said that one obstruction producing this effect was a dam across this stream in Billerica, erected by Christopher Osgood. Of this dam, they say, "which in our opinion very greatly hinders the water's discharging itself. We have, therefore, ordered and determined that the aforesaid dam, stoppage or obstruction be so far pulled down and removed as to give the said river its usual course and channel, that being the only place to begin the work at of clearing the said river to relieve the complainants or petitioners, and that nothing can be done that will be profitable until said obstruction is removed." They appointed seven men to execute their order.

Immediately Christopher Osgood petitioned the Governor and Council, to have the execution of this order delayed, "until a further view, examination and report be made of the said river and the influence the said dam may have towards the overflowing of the said meadows." In the petition, he states that he employed three men to view his dam, who surveyed and sounded at the dam and the ford-way above, and found the top of the dam to be three feet lower than the bed of the river at the fording place. Mr. Osgood's prayer was granted. A committee was appointed to view the premises. This committee reported that they "having been on the spot at two several times, once when the water was high and once when it was low, and viewed the said mill, mill-dam and the river as far as Concord, are of opinion that the demolishing of the said mill-dam of Christopher Osgood, will ease the said river and help the meadows above." This report was read in Council, when it was "ordered that the Commissioners of Sewers proceed forthwith in the execution of their commission.

The Commissioners of Sewers discharged their duty, and the dam was demolished in 1722. Those who executed the order were prosecuted by Mr. Osgood for trespass, on account of demolishing his dam by "force and arms." The action was brought in the "Inferior Court of Sessions." The defendants answered that they acted under an act of the Province, and that "any person aggrieved at any procedure" under this act may appeal "to the Governor and Council for relief." The defence was sustained by the court, and Mr. Osgood was ordered to pay the costs of the action. The plaintiff appealed to the Superior Court of Sessions. This court sustained the decision of the Inferior Court, and this case seems to have ended here.

For the New England Farmer.

GIRDLED TREES.

MESSRS. EDITORS:—I fear that the depredations of mice in young orchards, the past winter, have been very destructive. My own observations, and the lamentations of others over their disappointed hopes, lead me to this conclusion. With very young trees, I suppose the cheapest way is to re-plant, if they are nearly or quite girdled; but larger trees, say from two to three inches through, I think may be saved in another way, which may not be new, but which I have seldom seen practiced. I will relate my own experience. A few years since I had a fine, thrifty pear tree, which, in the spring, showed evidence of deadly blight in the bark at its foot, it being completely black and dead for ten or twelve inches above the ground, while the top appeared sound and well. I did not like to lose the tree, so I went to a nursery and procured three thrifty seedling pear stocks, about as large round as my finger. These I cut off at the proper height by a slanting cut such as is used in splice grafting, and planted them carefully as near the trunk as I could conveniently, leaning them towards it. I then, with a sharp knife, cut

a wedge-shaped piece of bark from the trunk of the tree opposite each stock, extending up into the healthy bark about two inches, thus ⋀, then shaping the stocks to fit the opening accurately, I bound them in with matting, and applying a little grafting wax to keep out air and weather, left the rest to nature. The result was, that I saved my tree, and now have it in a very thrifty condition, standing on three legs. There is no difficulty in the operation, and the saving of a nice tree is well worth the trial

A good deal has been said about the best time for pruning trees. I have found no bad results arising from pruning them at this season, always covering the wound with grafting wax, made by melting together equal parts of beeswax, resin and mutton tallow; this excludes the weather effectually, and is easily applied, and costs but little.

Worcester, April 13, 1862. M.

For the New England Farmer.

COST OF CUTTING GRASS.

MESSRS. EDITORS:—I have read the report of the agricultural discussion, on Monday evening last, with much interest. Like theological discussions, it is very clear that much may be said on both sides. How much of this discussion was brought out by the hard-hands themselves, who have learned their lessons in the field, under the sweat of their own brow, I must leave for others to estimate.

I notice an eminent farmer of Essex County maintains, that when English grass can be cut for one dollar per acre, by the scythe, it is not expedient to use a mowing machine. Now I thought, it had been demonstrated again and again, even on the farm of this same gentleman, that the expense of cutting such grass, by the use of a well-constructed and regulated mowing machine, need not exceed half a dollar per acre. If, then, it is a demonstrable fact, that one-half the expense of cutting grass can be saved by the use of such a machine, why not use it? If gentlemen deviate as far from the fact, on other topics, as in this, what reliance can be placed on what they say?

I had thought the improvements within the last thirty years, in the plowing of land, and the cutting of grass, two of the most prominent occupations on the farm, were marked and certain; and shall continue to think so, until I learn the contrary, from authority more reliable than that of

March 29, 1862. FANCY FARMERS.

LAWYERS.—Many persons suppose that lawyers thrive upon the misfortunes of business men in general. But gentlemen of the bar well know how completely unfounded is this impression. Their prosperity is intimately identified with that of the other classes of society, for the increase of proceedings of a vindictive nature but poorly compensates for the great falling off in negotiations and transfers in contests carried on in good faith between responsible parties seeking to test doubtful questions, and in the collectable proportion of judgments. It is well that it is so, for it would be a serious misfortune to any community to have in its midst a numerous educated and influential class with an interest adverse to that of the rest of society.

For the New England Farmer.

HOW TO DRAIN—MANURES.

Your correspondent H. T., Rutland, Mass., puts the question relative to draining a certain ten-acre lot. I have a lot not so large, but similar to the wettest portion of his; in answer to him, I will give the mode in which I treated mine. On one side the lot was washed by a brook; on the side opposite the brook a hill, at the brow of which I caused a ditch to be dug five feet deep; at the bottom I laid stones, with the upper edges together, leaving a space in shape resembling the letter A, covering to the depth of two feet with small stones and a laying of hassocks, then replaced the muck from the head ditch, and had others to conduct the water to the brook built in the same mode. Five years have passed since; the land has been completely rid of water, and has produced first-rate crops. I find the above used material to be cheaper than tile or plank, and less trouble. Most every farmer has them at hand, and wishes to rid himself of them; certainly there is no one but can try it in a small way, and if so successful as mine, will follow it.

Another correspondent asks—"Will *Concentrated Manure Pay?*" I find that the only dressing that pays with me is that which is in the reach of every farmer on his own farm, viz.: the droppings of the cattle composted with muck, urine, leaves, soap-suds and the contents ejected from the sink spout. If the farmer who buys these highly puffed fertilizers, takes the time in which he earns the money to purchase them, devotes it to the collecting of materials for the compost heap, he will find that he would gain greater results from that gathered by himself than that which he bought. For some years past I have tilled but a small area of land, manuring it highly. I find more profit than in a larger quantity, with less manure to the same space of ground. I find that after land is well seeded down to grass, it is not best to disturb it, but to apply the dressing as a top-dressing, saving expense of cultivating, and getting greater return for the amount expended.

Cape Elizabeth, Me., April, 1862. S. P. M.

SURFACE OF GARDENS.—In the fine surface soil of old gardens, the seeds of a multitude of plants, as well as many insects, or their *ova*, find a lodgment. In order to get rid of them effectually, it is a good plan to collect all the rubbish of the garden in the spring, together with the prunings from trees, and brush and weeds from pastures, and burn them on the ground. The limbs of the fir, spruce or hemlock, which many can command in any quantity, or indeed, any combustible material of little value otherwise, will answer as fuel for this purpose, and add also to the fertility of the soil by the ashes it leaves behind. But, of course, this can only be done on that portion of the garden where there are no perennial plants, unless the soil be scraped away into little heaps, burnt over and returned to its place. This would save a great amount of weeding, and destroy many insects—so that the operation may be found profitable in a great many cases.

FENCES.

We do not often feel at liberty to exclude articles from our columns that question the right to patents or improvements that are claimed, when they are written in a kind spirit, and with an apparent intention to subserve the cause of truth and justice. With these views we published the note from our "South Amherst" correspondent, believing that Mr. Smith would be able to defend his interests if unjustly assailed. His statements may be found in the letter below.

Haverhill, N. H., May 5, 1852.

DEAR SIR:—I read with some surprise the communication from the South Amherst man about my fence. As I wish to have the matter fairly understood by you and the publishers of the *Farmer*, I take the liberty of again writing you, that strict justice may be done to all concerned, and trust you will excuse the frequent use of the personal pronoun, which may occur.

In the first place, I will not deny that two persons, distant from each other, may devise precisely the same improvement, but this is not likely to happen.

In justice to myself, I will say that, with the exception of three years, my life has been spent on the farm I now occupy; and for many years, fences, and the improvements of them, have occupied more of my thoughts, by day and by *night*, than any, if not everything else. I do believe I never dug a hole in the ground and put a post of wood in it, since I came to years of *reflection*, and felt right about it, or satisfied in doing it. During my absence from home, as a teacher in Virginia, my thoughts were constantly running upon improvements in them, and while there, I planned two or three kinds, which I determined to try when back again on the farm. To be brief, eight or ten years ago, I tried the kind you have on your farm, without the grooving or the wire holdfasts, and the first words I uttered, after nailing on the braces, were, "It is a triumph!" This fence, with the improvements, was exhibited at the New York State Fair, (too late for a premium,) and pronounced much better than any other. It was shown at the Vermont and New Hampshire State Fairs, and at each drew both premiums and diplomas. It has been built, (as at first,) on my own farm, by the sides of the main thoroughfare through this valley, and seen by thousands for eight years, and never, but in a single instance, has my claim as to its originality been denied, and that was by a man who had to leave town for *stealing* at a funeral! He said he had helped to build the same thing on the *railroad*. I asked how they did it? He replied, they laid down a sleeper, spiked the foot of the post to it, and nailed boards for braces, *a la mode* Vandermark!

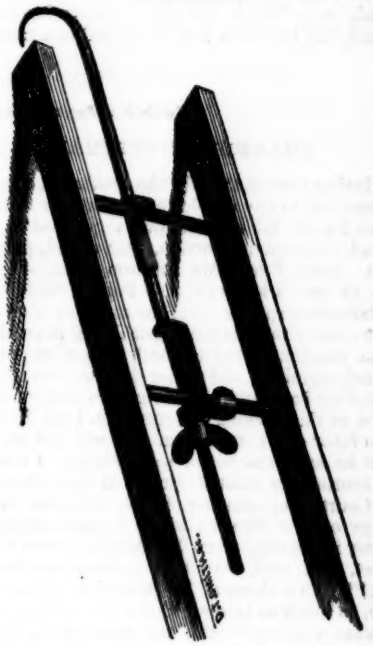
In one word, the fence, from top to bottom, is in every sense my own, as much as the able essay upon the value and uses of Swamp Muck in the Patent Office Report for 1856, is yours.

When at your place, you will recollect I showed you Munn & Co.'s letter about my patent. After stating the *claims* allowed, they say, "It is certain no one can build the fence with braces on both sides," and also, "We think you have got all you want."

I have written to a friend to investigate the South Amherst fences, and when heard from, wish to send an article for the *Farmer* in reply. My model was with Ex-Com. Burke more than two years before I would let the application be made, (wishing to perfect the fence,) and from that, or the fences here by the roadside, I think the South Amherst farmer got his fence ideas. Mine have been got by an immense amount of study and experiments, with *some failures*, and the theory is before the farmers of New England, with *every* claim as honestly and fairly mine as any work done during my lifetime.

CHARLES R. SMITH.

FARRAR'S PATENT ADJUSTABLE HOOK LADDER.



It is often said that it is the little things of life that go to make up its great sum. This truism applies especially to articles which are patented—as it usually is articles that are small and cheap, but those that are used by millions, which are really the most useful, and that best reward the genius and labor of the inventor. This adjustable Hook is one of them. The inventor gives the best account of its usefulness, and we will stand aside and let him speak for himself. He says:—

The inventor is aware that ladders have been furnished with hooks permanently attached to their sides. But hooks so attached are in the way when the ladder is used for other purposes than of ascending the roofs of buildings, and workmen are often obliged to carry a hook ladder to their places of business, or else go with an uncertainty as to finding one.

The object of this invention is to obviate these difficulties, and to furnish a hook which may be

easily transported separate from the ladder, and which may be applied to any ordinary ladder when required.

The Adjustable Hook can be attached to the ladder by clamping it to the two upper rounds, the clamp being made adjustable so that it may be fitted to ladders of different sizes, or in which the rounds are different distances apart. Two of the hooks can be attached to a ladder, but in ordinary cases I have found, when working on the roof, one hook is best, as the ladder can be more easily moved about, and one hook is sufficiently strong for ordinary purposes. Another advantage of this hook is that it can be applied to any part of the ladder.

Farmers, and all who have buildings, will find this hook very useful. Buildings may be often saved from fire by having one of these hooks at hand, as a ladder can most always be readily found, and the hook can be applied in a moment.

For the New England Farmer.

CRANBERRY CULTURE.

Having a great love for the cranberry, thinking it superior to any article that grows, for ordinary sauce for the table, I am always gratified to meet sound, practical instruction, from sound, practical men. Such I take Mr. Addison Flint, of Reading, to be. I know he and Father Sheldon, of Wilmington, sprung from the same meadow, and have conned their lessons agricultural in much the same manner. They are both somewhat positive in their opinions, and rather inclined "to stick to what they have said," be it right, or wrong. Now, so far as this sticking is concerned, I am decidedly in favor of it; for a man who will not stick to what he says, had better say nothing. I remember hearing the great Jeremiah Mason arguing to the Court some question of law, when the senior Judge on the Bench made a remark about the matter in hearing, when Mr. Mason turned to the Court, and said, "Will your Honors stick to that?" with a shrug of his shoulders at the same time, as much as to say, "You do not always stick to what you say." But the question is, how is this to be applied to cranberry culture? Mr. Flint thinks cranberries will be best grown, where the land can be completely flowed, and all other vegetation driven out by this flowage. Perhaps it is so. The very last season, I received a bushel of cranberries, from a man in Manchester, as handsome as I ever saw, who obtained the first premium of the Essex Society for the growing of cranberries. It was awarded by Mr. N. Page, Jr., a modest young man, who knows quite as much about the growing of cranberries as any other man among us, and has told what he knows, in a sensible essay, published in Mr. Secretary Flint's recent volume of the Agriculture of Massachusetts.

Since the experiment of Mr. Elias Needham, in the growing of cranberries on the upland, I have been accustomed to think, that none of so good quality could be otherwise grown. Nevertheless, it is quite certain, that the true position for the cranberry is on low, level ground, where a flow of water can occasionally be introduced. If I do not mistake, the culture of this delicious vegetable is destined to a great increase, and that there will be at least ten bushels raised, where there is now but one.

P.

For the New England Farmer.

NOTES FROM THE MONOMACK.

BY SAGGAHEW.

RINGING.—Most of the readers of the *Farmer* are doubtless somewhat familiar with the philosophy of "ringing" fruit branches, for the purpose of increasing the size of the fruit. It may be briefly, though imperfectly, explained as follows:

As the blood, after traversing the arteries of the human body to their minutest extremity, is returned to the heart through the veins, so the sap of trees and plants is returned to the roots, through appropriate vessels, or channels, located beneath the outer bark. If we compress the bark below a pear, or bunch of grapes, the sap, is impeded in its return flow, and, as experiments have fully proved, it expends itself in enlarging and perfecting the fruit below the stricture. The most approved mode of performing this experiment is by cutting out a narrow ring of bark just below the fruit to be experimented upon—hence the name "ringing." Fruit thus treated is much larger, and every way finer, than that upon the same tree, or vine, which has not been subjected to this process.

While conversing with a townsman, some months since, the subject of "ringing" chanced to be mentioned, and as he had never heard of it, I was induced to explain the operation, as well as the philosophy of the thing. On concluding, he pointed to a large apple tree standing in his garden, and observed, that, although it has regularly blossomed profusely, it for many years never ripened a crop of fruit. It seemed to have a confirmed habit of dropping its fruit, while the latter was quite small, and he had repeatedly almost decided to cut it down, as entirely worthless. But a few years since, he happened to read in some newspaper that if a ring of the bark on the principal limbs was vigorously *scraped*, just after the fruit had set, such trees would cease to drop their fruit before maturity. As the proposed remedy was a simple one, he tried it. The result was most gratifying. For the first time in its history, the tree matured a large crop of fine fruit. Since that time he has occasionally given the bark of the trunk, and the base of principal limbs, a good scraping, and the tree has borne him regular crops.

He had never heard of the philosophy of the process, and it was only when we explained the philosophy of "ringing" that the reason of his success in scraping his old apple tree flashed upon his mind. He observed that the simple remedy had saved him many barrels of fine apples and transformed a valueless tree into one of the most productive in his whole garden.

Are there not many such trees still casting their untimely fruit, and is not the hint which resulted so favorably in this instance, well worth acting upon in all similar cases? I think so. Will not some of the readers of the *Farmer* try the experiment, and note the result? I should add that, in obstinate cases, the scraping should be pretty severe, so as to be sure to impede the return flow of the sap, and thus compel it to expend itself in maturing the fruit.

For the New England Farmer.

SAWDUST AS AN ABSORBENT---TO MEASURE A TON OF HAY.

MR. EDITOR:—As I have used considerable sawdust for the last year, and with very good success, I do not hesitate to say that it is the very best thing to use for bedding under cattle and horses. It is very absorbent, and will take in a large quantity of water. Put it under the cattle and it will soak up the liquid, and keep them nice and dry. It is also a good fixer of ammonia. Every one knows, who is familiar with the horse stable, that on entering it he finds a very bad odor arising. If you would use a half-bushel of sawdust a day, for each horse, on the stable floor, it would prevent it entirely, and add greatly to the manure-heap.

TO MEASURE A TON OF HAY.

In the *Farmer* of November 30th, in an article on weights and measures, it is said that one hundred cubic feet of hay, in a solid mow or stack, will weigh a ton. I think this is a mistake, and it is very important that every farmer should know how to reckon up his hay, after he gets through haying. A mow of hay that is well stowed, will weigh out a ton to every five hundred cubic feet, or if it is of a very fine quality, from four to five hundred feet will make a ton. Five hundred cubic feet is as small a number as we can often reckon a ton of hay in. A ton of pressed hay will measure over two hundred feet. A. L. W.

Hope, Me., April, 1862.

REMARKS.—Thank you, sir. We do not find the article to which you refer, but if it stated 100 cubic feet for a ton, it was a mistake. We have often given these estimates. In the monthly *Farmer* for January, 1860, we give the estimates of several persons. One says, that "the top of a mow, say about one-third, would require 800 cubic feet to the ton; the middle 700 feet, and the bottom 600 feet." Another, that at the bottom of a mow 400 feet will make a ton, and that a whole barn full weighed out, averaged a little less than 500 feet to the ton. Another of our correspondents states that farmers in his region estimate that from 400 to 500 cubic feet to the ton, according to the position in which it lies, is sufficient.

BURSTING OF AN ICEBERG.

A few years ago, a French man-of-war was lying at anchor in Temple Bay; the younger officers resolved on amusing themselves with an iceberg, a mile or more distant in the Straits. They made sumptuous preparations for a picnic upon the very top of it, the mysteries of which they were curious to see. All warnings of the brown and simple fishermen, in the ears of the smartly-dressed gentlemen who had seen the world, were quite idle. It was a bright summer morning, and the jolly boat, with a showy flag, went off to the berg. By twelve o'clock, the colors were flying from the ice turrets, and the wild midshipmen were shouting from its walls. For two hours or so, they hacked and clambered upon the crystal palace, frolicked and feasted, drank wine to the king and ladies, and laughed at the thought of peril where all was fixed and solid. As if in amazement at such rashness, the grim Alp of the sea made neither sound nor motion. A profound stillness watched on his shining pinnacles, and hearkened in the blue shadows of the caves. When, like thoughtless children, they had played themselves weary, the old alabaster of Greenland mercifully suffered them to gather up their toys and go down to their cockle of a boat and flee away. As if the time and distance were measured, he waited until they could see it and live, when, as if his heart had been a volcanic fire, he burst with awful thunders, and filled the surrounding waters with his ruins. A more astonished little party seldom come home to tell the story of their panic. It was their first, and their last day of amusement with an iceberg.

For the New England Farmer.

HOP CULTURE.

In reply to Mr. Stanford's inquiry in regard to raising hops, I would advise him to continue the cultivation of his yard, as I think they will command a remunerative price, from the fact that hops have been very low for a few years past, and consequently, many yards have been plowed up or neglected, so that the supply will not be as large for a few years to come as in years past. Having lived in Otsego county, the great hop-yard of New York, and worked in the hop-yards considerably, I will state their mode of cultivation.

The first year, they are cultivated like corn, no poles being set, and in the fall a shovelful of coarse manure is thrown on each hill, to keep them from freezing, and also to keep the land in good condition. The next spring the poles are set, two in each hill, as soon as they begin to show themselves out of the ground. The poles should be set very firm, to resist the winds, which exert a tremendous power on them when loaded with vines. Poles are generally cut eighteen to twenty feet long, which admits of their being sharpened two or three times if they rot off, as they always do in a few years. The land must be cultivated the same as for corn, keeping the weeds down, and hilling the hops up about the first of July, the same as corn. As soon as the hops are from two to four feet high, they must be tied to the poles with woolen yarn, putting two vines to the poles and cutting off all others close to the ground. Nothing more is necessary until picking time, except to keep watch and fasten up vines that happen to fall down, and re-set the poles if any should happen to blow over. The picking is usually done by women and boys at about two cents per bushel. Boxes made of thin, light wood, and holding from twenty to thirty bushels are used to pick them in; four picking in a box, and having one man to pull the poles, cut off the vines, and lay them on the box. Large sacks are used to carry them to the kiln where they are dried before they are marketable.

The size of the kiln must depend on the size of the yard. A yard of two acres would require a kiln about fourteen by sixteen feet, and twelve foot posts; the lower room seven feet between joints, and lathed and plastered, so as to be perfectly tight, except overhead, where there should be floor timbers eighteen inches apart, and a floor of

slats one and a quarter inches square, and laid one-half inch apart, and the whole covered with a kind of open cloth made for the purpose. On this floor the hops are spread from four to six inches deep, and a fire of charcoal made in the room below, and the temperature raised to about one hundred and twelve degrees. It usually takes about twelve hours to dry a kiln, they being stirred up every hour, and a teaspoon of sulphur put on the fire about as often; the object of which is to bleach or whiten them. After being dried so that no moisture can be extracted by squeezing them between the thumb and finger, they are taken off and prepared in bales of one hundred and fifty to two hundred pounds, and sent to market.

The poles are stacked upright in piles of about one hundred, and left until the next spring. Hops can usually be sold in any city where there are brewers, but I believe that New York and Albany are said to be the best markets for them in the United States. Any other information which I can impart in regard to their culture will be cheerfully given. H.

Rensselaer County, N. Y., 1862.

EXTRACTS AND REPLIES.

PEAR TREES AND HENS.

I built me a hen-house last fall large enough for fifty hens, and this spring I intend to fence off one-third to one-half an acre for them to run in, and also intend they shall be kept in the yard, for if there is anything I dislike, it is to have hens in my barn or garden.

I am in hopes my hens will pay all expenses and leave a little profit; but to make sure, I intend to set out the yard as full of trees as I can, and have them do well. It seems to me that hens in an orchard of any kind of fruit will be of great benefit to the fruit and the trees; to the fruit, by picking up all insects that injure our fruit, if they should be unlucky enough to fall to the ground; and to the trees, by keeping the land in good condition. I should prefer to set standard pear trees, twenty-five to thirty feet apart, and then fill up with dwarfs, but do not know much about pear trees. The soil is thin, and consists of a gravelly loam, quite stony, on a gravelly subsoil, but it is rather moist and bears good crops of grass. The exposure is about south-east.

From the imperfect outline I have given, can you recommend me to set out pear trees?

A. J. ALDRICH.

North Blackstone, April, 1862.

REMARKS.—The land you describe is not so favorable for pear trees as a clayey loam would be, but by enriching and deepening the soil and mulching the trees so as to keep them moist, you may succeed.

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ASHES AND NIGHT SOIL.

It is said by some that it is wasteful to mix ashes with the contents of the privy. Is it so? And if so, why, and to what extent is it wasteful?

Farmingville, 1862. INQUIRER.

REMARKS.—It is supposed that alkaline substances mixed with green manure, set their ammonia free, which escapes and is lost.

SAVING SEED CORN.

FRIEND BROWN:—Your monthly visits to our yeomanry make us acquainted with the operations of others in the various branches of business employing our farmers through the country; the profit, or loss, or convenience realized by their different skill, economy and perseverance evinced in their management. Like us, having farms, buildings, fences, stock and fruit, with all the variety of soil, seeds, and culture, as well as time and place of sowing and harvesting and marketing or using—and the result of experience in the employment of machinery or manual labor, and all that relates to feeding and training both the family and the animals for the highest usefulness. A fund of knowledge is available at our homes, through the *New England Farmer*, giving our sons a taste for reading, and writing even, that will save the time and expense of travel for personal intercourse, or give double value to such travel for such information. Please accept a few words on saving seed corn.

Many years ago, I was particular to have the ears filled out with a kernel on the top. This was quite a saving and a gratification to me, and others, seeing how invariably it was secured. One old man said to me, "I have always picked the first ripe ears from the stalk in the field, thus gaining two or three weeks, and sometimes the ripening before a frost, and hundreds of dollars to my interest for such seed." Another man, on viewing my field, said, "My grand object has been to get twin ears to plant. I sometimes find three or four upon one stalk. I can assure you it pays well, but I never thought of the filling out and early ripening in saving seed."

Since then, I have adopted all three of these characteristics, and recommend it. The laws of our all-wise Creator are true, "What a man soweth, that shall he also reap."

BENJAMIN WILLARD.

Holyoke, April 9, 1862.

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SEEDING WITH FOWL MEADOW.

I have a piece of land which I would like to lay down to fowl meadow. It is low and clear from stones; the soil is rich and composed of black mold. Now I would like to know which is the best time to sow it, spring or fall? If spring, would it be advisable to sow any other grain with it, and if so, what kind, and how much seed to the acre? THOMAS GOLDSMITH.

Auburn, N. H., 1862.

REMARKS.—The common grains that we usually sow grass seed with, would scarcely succeed on lands suitable to grow fowl meadow grass. Sow in the spring. Some of the crop is usually left to ripen so as to sow itself annually. It is a fine seed, and we should think six to eight quarts per acre would be sufficient, perhaps less.

—

TO PREVENT COWS FROM KICKING.

Put a trace chain tightly around the cow forward of the hips.

I had a heifer last season that kicked so that she could not be milked. My man put a chain around her a few times, and it broke her entirely.

East Hardwick, Vt., 1862. P.

HENS, TURNIPS, SELF-SUCKING COWS.

Will some of the readers of the *Farmer* give us their experience as to the profit of keeping hens on a larger scale than we find in almost every number of that valuable paper, with their mode of treatment, &c.? I keep 400 in 8 houses, which paid me a profit of $200 on last year. When I have had more experience in the business, I will give you the particulars.

Will you also inform me why my ruta baga turnips (which I raised quite extensively for sheep last year) had an inclination to run up to seed, or had a stalk on many of them from 6 to 12 inches high? I got my seed from a respectable seed store in Boston, and supposed it to be good. Was it in the seed, or through some mismanagement on my part?

Also, will some one inform me how to prevent a valuable young cow from sucking herself?

CAPE COD FARMER.

East Orleans, April, 1862.

REMARKS.—We hope "Cape Cod Farmer" will get satisfactory replies to his questions.

GOATS AND HORSES.

I wish to inquire through your paper—

1. How much of the year will a goat give milk?
2. Which is the best, to let her breed once or twice a year?
3. Which is the best age to let a goat begin to breed?
4. What is the best fodder in the winter?
5. Will sheep and goats do well together?
6. Which is the best, plank or ground for horse stables?
7. What is good for bots and worms in horses?

A FARMER BOY.

Kensington, N. H., 1862.

REMARKS.—We cannot answer the questions in relation to goats. Wood ashes, mixed with cut feed will destroy worms in horses.

LEGHORN FOWLS.

In reply to "Subscriber" in the *Farmer* of April 12, I would say,

1. The piece I referred the gentleman to was in the *New England Farmer.*
2. It might not be pleasant to the writer of the article to have his name used in this connection. I dare say he was perfectly honest; but very likely had never seen many Leghorn fowls, and thought them as nice as others.
3. The gentleman who purchased the six fowls, was C. K. Hubbard, (opposite City Hall,) Worcester, who knows and keeps nice fowls.

If "Subscriber" is particular about knowing the name of the writer of the article I referred to, he he can ascertain by addressing

New Worcester, 1862. C. K. HUBBARD.

HOW TO MAKE EMPTYINGS OR YEAST.

Having seen a number of receipts for making bread, etc., in your valuable paper, I venture to send you one for making emptyings: Make hasty pudding, (Indian,) in the usual way; as soon as it is cooked add three or four large spoonfuls of sour milk, and a small quantity of rye, or wheat meal, or flour, to a quart of pudding; and after sufficiently cooled so as not to scald, stir in a little yeast and set to rise. Emptyings made in this way may be used, (adding a little saleratus,) to mix bread, dumplings, &c., with, using no other wetting, thus effecting a great saving in flour. Bread and other things, made in this way, are as good or better than when mixed with milk.

Cheshire, N. H., 1862. SUBSCRIBER.

FINE BARLEY.

In 1860, from fifteen pounds sowing, I raised 480 pounds. It weighed from fifty-eight to sixty pounds to the bushel. I send you a head or two of the barley. H. A. BUTTOLPH.

Shelburn, Vt., 1862.

REMARKS.—This barley is very handsome.

MACKAY SWINE.

Will you, or some of your correspondents, inform me where I can obtain two pigs, one male and one female, of the full-blooded Mackay breed of hogs, and oblige a subscriber? F. H. S.

Northfield Farms, April, 1862.

PERILS OF CHAMOIS-HUNTING.

Three experienced shots of Appenzell were hunting on the Gloggeren, that lofty wall rising south-east from the See Alp, which one passes on the way from Weissbad over the Meglis Alp. One of them went by this lower path, a second higher up over Marwies, and the third hunter over a narrow grassy ledge on the rocky wall between the two first mentioned. The chamois were driven along this grassy ledge. The highest and lowest had easier going, and came earlier to the place where the combined shooting was to begin. The first saw the beasts coming to him, coming directly towards his rifle, and waited, looking out constantly for the third, who was driving them along the grass ledge. The chamois came gradually nearer; he is afraid of losing his shot, lies in a feverish state of excitement, fires, and, frightened at the report, the beasts turn and fly hurriedly along the ledge the same way that they had come. Just at a narrow sloping place, scarcely broad enough for a man to pass where it bends round a projecting rock, they came in their wildest flight upon the hunter climbing toilsomely upwards. If the two parties had met upright on this giddy rim of the rock, the hunter must infallibly have been dashed over a cliff sinking for more than 100 feet, as the chamois would instinctively in the agony of despair have tried to squeeze themselves between the rock and the hunter. The man prudently observed this, and to save his life, threw himself down and let the whole herd rush at a flying leap over him. Another hunter in Glarus, in a similar position at a critical place, thought that he might secure his booty by a quick resolve, and cowered down sitting, wedged firmly against a rock, and shot. The charge missed, the chamois jumped over him, but touched him in his bounding elastic spring with one of his hind hoofs on the jacket, and tore its highest button-hole; a hesitation would have infallibly sent both over a crushing fall.—*"The Alps," by H. Berelepsch.*

For the New England Farmer.

AGRICULTURAL EDUCATION.

MR. EDITOR:—I hope I shall not be understood to be opposed to the study of agriculture itself, because I have opposed its introduction as a study into our common schools and colleges. There is need enough of the study of agriculture, but this is no reason why it should be introduced into our common schools and colleges which were designed and established for the purpose of giving instruction in other branches which are absolutely indispensable to the public welfare. Besides, these institutions have already as many studies as they can attend to and teach successfully; and they ought not to be perverted to other purposes.

Neither our common schools, nor our colleges, as at present constituted and conducted, can teach agriculture successfully, because they are not adapted to the purpose, and have not the means of doing it. They have not the land to cultivate, nor the means of cultivating it. The time and attention of the pupils, in both institutions, are necessarily devoted to other studies, so that any attempt to introduce the study of agriculture would utterly fail of success, and not only injure these institutions, but injure the interests of agriculture, also, by creating a strong prejudice against it, as a useless and unnecessary study. No; agriculture cannot be successfully taught in these institutions. They have not the means of showing the best way and manner of doing all kinds of farm work. This can be taught only on the farm, and under the personal supervision of a good farmer, who is able to teach by precept and example. And it is to be learned only by labor and application, by following the instruction and example of others, and by reading, reflection and study.

The only substitute for family instruction on the farm, is that of farm schools, established and endowed for the purpose. They are usually furnished with all the means of teaching all the branches experimentally and practically. They have all the means, including the necessary funds and teachers, to do it with. At home, on the farm, the scholar can learn no more of farm operations, than he is taught by the family and by the example of everyday laborers, and also by reading agricultural books and papers. But at the farm school he will enjoy additional advantages. He will not only be taught how to do every particular kind of farm work, but also the reason why it should be done thus and so, and not in a different way and manner. He will have an opportunity of witnessing all kinds of agricultural experiments, and of having the nature and operation of every process fully explained. Theoretical and practical lectures will be given in connection with every kind of farm work, so that the young farmer will be made to understand his business.

But after all, it is said, that scientific lectures are not adapted to the capacities of the young, and are liable to be misunderstood by them. That this is sometimes the case is very evident from the following example: A certain boy went to hear a celebrated minister lecture on the subject of Peter's denying his Master. The boy was very much pleased with the minister's beautiful lecture, so elegant and so eloquent; and being urged to tell what the minister said that pleased him so much, "Why," said he, "the minister said that Peter swore three times before he crowed!" Such, however, is not the effect of scientific lectures when delivered in connection with farm schools, because they are always accompanied with visible illustrations and practical examples which make them intelligible and instructive. Still, it is undoubtedly true, in some degree, that those only who have prepared their minds by previous study, can profit much by scientific lectures. It is nonsense to think of pouring out knowledge upon those who are not prepared to receive it, and who make no effort to understand and reduce it to practice. To obtain a correct knowledge of the business of agriculture in its most minute details, requires study, thought and reflection, and a ready and willing mind to reduce to practice the lessons of experience. There is work to be done, and it must be done by those who would learn how to do it. The work must be done scientifically and correctly, as explained and exemplified by the teacher. No farm school can prosper, or be useful, which does not teach by example, as well as by precept.

JOHN GOLDSBURY.

Warwick, Mass., 1862.

THE STRAWBERRY.

(FRAGARIA VESCA.)

There are many varieties of this fruit, all of which are more or less valuable. The common native strawberry of our fields is but little cultivated, but it is nevertheless equal in value to many of the foreign and "improved" varieties. Being indigenous, it is necessarily more hardy, and with proper cultivation, is even more prolific. The fruit is not so large, but of superior flavor. The plants should be set in August, in rich, mellow soil, in rows two feet asunder, and about one foot apart in the rows. Compost, formed of putrescent vegetable matter, house ashes and plaster should be well worked in, and the plants frequently watered with soap suds, or water from the barnyard. A cask, filled with old muck, into which a few pounds of guano has been mingled, will form an excellent reservoir, by filling it with water. This may be drawn into a watering-pot and put upon the plants in the evening with great advantage. The water drawn from this mass should be quite weak, but if the season is at all dry, should be applied every evening.

The runners, of which many will appear the following season, should be removed, and the ground kept light and clear of weeds. As soon as the fruit is fairly formed, the spaces between the plants should be covered with straw or tan, to prevent the fruit, in its ripe state, from coming in contact with the dirt, and to prevent the growth of weeds and excessive evaporation. This covering may be kept in place by sticks or stones, or by throwing a little loose earth upon it, and need not be removed until the next spring. These re-

commendations are suggested for application where only a small portion of land is occupied, and where it is desired to secure the largest possible product. On a large scale, for market purposes, it is questionable whether this course would be the most profitable.

The strawberry, more than most other plants, needs a large amount of water,—and some cultivators who have been quite successful, state that they produce heavy crops on indifferent soils, by the use of large quantities of water alone. The best course is, to set the plants on a soil that would bring fifty bushels of corn per acre, supply water plentifully and keep the soil light and clear.

For the New England Farmer.

THE PARSNIP WORM.

Mr. Editor:—In the April number of the *Farmer* you give quite a long account of the parsnip; speaking of the value of that root and the carrot as feed for stock. You figure a tortrix moth with the chrysalis and caterpillar, but only refer to it, without giving any of its history. I think that pure science and the application of science to use ought to assist each other; and often if you should give the history of a pernicious insect, it would help on agriculture, and at the same time furnish useful material to the scientific man. If you can, I should like to have you write the history of this moth.

In raising any crop, it is of great importance to consider what will endanger it; as sometimes a crop is completely lost, by neglecting to foresee and provide against its enemies. Very conspicuous among the enemies of our crops are the insects which feed upon them; and I think any information about them is valuable. The most important insect feeding upon the parsnip lives on other plants of the same family—the carrot, celery, caraway, parsley, &c. It is a caterpillar, at first of a black color with two wide white bands encircling it, afterwards it changes its color with successive moultings, and becomes green, with cross bands of black spotted with yellow, one stripe to each segment. When full grown they measure about an inch and a half in length, tapering from the fourth ring towards the head and tail. When disturbed they thrust out two orange-colored horns, of a soft substance, which diffuse a disagreeable odor, probably protecting them from molestation. The first brood of these caterpillars come to maturity about the middle of July, and change to chrysalides after suspending themselves by the tail, and a loop around their body, to a fence or anything that will give them support and protection. The chrysalis is generally of a straw-color, spotted with green and black. After remaining in this state about a fortnight the chrysalis bursts open and the butterfly appears. It is black, with two rows of yellow spots on the margin of the wings; the inner row often being absent on the fore wings of the female. Between the rows of yellow spots on the hind wing there is a row of blue ones, with a deep orange one on the inner margin. They expand about three and a half inches. These lay their eggs, which form a brood of caterpillars in September and October, changing into the chrysalis state in October, to remain thus through the winter, coming out in the spring to lay eggs for the summer brood. A full description of the insect can be found in Harris' "Treatise on Insects Injurious to Vegetation," under the name of "Parsley-worm;" the scientific name is *Papilio Asterias*.

Do the best we can, our efforts would be of little avail in checking these insects, but we are not left alone to do the work of extermination; this caterpillar is attacked by an ichneumon of a brick red color with black wings, about three-fourths of an inch long and expanding an inch and one-fourth, which lays one egg in a caterpillar; which egg contains a grub that, as soon as hatched, feeds upon the caterpillar, eating at first the fat and other parts not necessary for the life of the caterpillar, but after that has thrown off its skin and become a chrysalis, it devours all the rest, leaving nothing but an empty shell. When the time for the butterfly to come forth has come, the ichneumon eats through the wing of the chrysalis and goes forth to destroy other caterpillars in its turn. To show how much aid these ichneumon flies are to the farmer, I will state that out of sixteen chrysalids I obtained last fall, two have come out butterflies and *fourteen* have come out ichneumons; take off a few such checks, and the results would be a host of caterpillars next summer, almost equal to the army worm of the last season.

But to secure the present crop, it will be seen that we must search for the caterpillars and destroy them ourselves, for the ichneumon do not kill them until they have done all the mischief they can; they prevent them from increasing the number next brood. Harris does not speak of this ichneumon in his book, so I thought some of your readers would like to know its history, and I described the butterfly for those who did not have access to the book at all.

Carleton A. Shurtleff.

Brookline, April, 1862.

MIGNONETTE AS A TREE.

Buy a pot of ordinary mignonette. This pot will probably contain a tuft composed of many plants produced from seeds. Pull up all but one; and, as the mignonette is one of the most rustic of plants, which may be treated without any delicacy, the single plant that is left in the middle of the pot may be rigorously trimmed, leaving only one shoot. This shoot you must attach to a slender stick of white osier. The extremity of this shoot will put forth a bunch of flower-buds, that must be cut off entirely, leaving not a single bud. The stalk, in consequence of this treatment, will put out a multitude of young shoots, that must be allowed to develop freely until they are about three inches and a half long. Then select out of these four, six, or eight, according to the strength of the plant, with equal spaces between them. Now, with a slender rod of white osier, or better, with a piece of whalebone, make a hoop, and attach your shoots to it, supported at the proper height. When they have grown two or three inches longer, and are going to bloom, support them by a second hoop like the first. Let them bloom; but take off the seed pods before they have time to form, or the plant may perish. It will not be long

before new shoots will appear just below the places where the flowers were. From among these new shoots, choose the one on each branch which is in the best situation to replace what you have nipped off. Little by little, the principal stalk, and also the branches, will become woody, and your mignonette will no longer be an herbaceous plant, except at its upper extremities, which will bloom all the year without interruption. It will be truly a tree mignonette, living for an indefinite period; for, with proper treatment, a tree mignonette will live twelve to fifteen years. I have seen them in Holland double this age.—*Parlor Gardener.*

For the New England Farmer.

WHEAT BRAN AS A FERTILIZER.

MR. EDITOR:—A communication in the weekly *Farmer* of Feb. 22, 1862, from J. P., states that he has tried the experiment with wheat bran as a fertilizer for corn, and that it has failed. Now I must say that I am surprised at the result of his experiments with it in regard to corn; but with potatoes not, for it has been demonstrated in this vicinity to be worthless for them.

I quote from memory, but I think that I conveyed the idea in the said communication to which he refers, that it was practicable and profitable; at least, the fact was so established in my mind, by experiments tried by me the preceding year. And in the year 1860 I used it more extensively, side by side with Coe's superphosphate of lime, and was unable to detect the difference by the appearance in the growing crop. "J. P." himself would, had he seen it, have been obliged to "acknowledge the corn," and also acknowledge that it was better than sawdust, even after being composted by the cows, if he had seen a few rows that were left, by way of experiment, in which no fertilizer was used, —the opinion of his better half, to the contrary notwithstanding. The present year I intend to use it more extensively than heretofore, if possible.

The winter of 1861 was a very hard season for farmers, as forage for stock brought a very high price, and was very scarce at that, consequently, everything that would do for fodder was used to keep the stock alive, and another consequence was the scarcity of money with poor farmers. The result of this was the using of fertilizers to a less extent, which was the case with the writer of this article. I am not alone in the belief of the utility of wheat bran as a fertilizer for corn. Besides the statement of "T. G. H." in proof of this, I could get a list of names from this vicinity that would astonish "the natives." But it may be with this, perhaps, as with some other fertilizers, that in different kinds of soil it may have a different effect. Thus with gypsum or plaster of Paris, it has a much better and lasting effect on clay soil than on sandy soil.

Thanks to "J. P." I would be glad to have others go and do likewise, with regard to their experience.

WHAT KIND OF SAW.

Will "E. B. P.," of Mechanicsville, Vt., say what his saw is, whether it is circular or cross cut, as there is a difference in the application of the power to each. J. S. S.

Vermont, 1862.

For the New England Farmer.

CHARCOAL DUST AS A DEODORIZER.

MESSRS. EDITORS:—The recent discussion in your paper respecting the use of various deodorizing materials to absorb the ammonia and other gases generated in stables, has recalled to my mind some experience of my own.

Several years since, I was preparing in my cellar enriching matter in a fluid shape for my greenhouse plants, but the effluvia arising therefrom became offensive. To counteract that annoyance, I applied a small quantity of charcoal dust. The effect was magical, and the compound became at once entirely inodorous. I then tried the dust in a large cask for rain water for use in my furnace, and in which the water would have an unpleasant smell. Here, too, the effect was all I could wish.

Previous to that time, my cistern water had caused me much annoyance. Whether because of the dust from the street in front, one of the most frequented of the city, but watered daily through the season, or from the surrounding trees and vines, or perchance because of the impurities of a city atmosphere deposited upon my roofs, the water in my cistern, even after repeated washings and scourings, would be dark colored, odorous, and offensive. Very naturally, therefore, I proceeded a step farther, and applied some four to six quarts of the charcoal dust to my cistern; first wetting it thoroughly in a pail, and pouring it in through the water pipes. The effect was immediate; and the result far beyond my expectation. The water became clear, pure and sweet as when it fell from the sky.

Not being disposed to keep to myself a matter so simple, and which added so much to the comfort and health of my family, I wrote a short article upon the subject, which was published in the April number, 1850, of the *Horticulturist*, and was very extensively copied through the whole country.

A few days after the publication, a learned professor suggested to me, that I had undoubtedly made a valuable discovery, but I might have put it in a more scientific shape; that I ought to take pieces of charcoal, heat them thoroughly, and throw them while hot into the cistern, and in that way I should effect a more favorable result in a truly scientific manner. My reply was, that the method I suggested was so perfectly simple, that people generally would derive more benefit from it than from a more scientific course, which involved greater trouble, nor could I see how any other mode could be more effectual. To the honor of that professor be it stated, that, some time after, he said to me, "I tried my plan for the use of charcoal, and then yours. In my mode of application, the charcoal had not the slightest effect; in yours, it acted like a charm, and seemed to render the water as clear and pure as if it had been distilled." The same professor travelled extensively in the West, that season, and on his return, in his own friendly manner, said to me, "You have acquired immortality more easily than any other person I ever knew. In all my journeying at the West, the first inquiry proposed to me, wherever it became known that I was from New Haven, was, "Who is that Mr. R——, who has made the great discovery respecting the use of charcoal dust for purifying cisterns?"

A learned judge of our city, when the article appeared in our papers, called upon me to inquire as to the precise mode of procedure. He said that his cistern had been repeatedly cleaned and scoured, and yet the water was dark colored and offensive, and for months they had been compelled to use bay rum with it, to overcome its offensive features. A few days afterwards, in answer to my inquiries, he said, "It worked like a charm. In three days, the water was sweet, and in a week, perfectly clear and pure."

All this is probably of little interest, or importance to your readers, except in so far as it may impress upon their minds the value of the mode proposed for purifying water. Most families use charcoal, and from the bottoms of their bins, can obtain, with a little care, enough of the dust to answer all their needs. It ought to pass through a sieve to remove the coarser particles, which are of little value, and may impede the action of the pump.

Recently, I have used dust from cinders emptied from locomotives at our railroad station. These cinders are prevented from escaping, by the wire gauze on the top of the chimney, but from these can be sifted out some so fine as to answer the purpose admirably. These railroad cinders are now used very considerably here as deodorizers in the removal of night soil, and undoubtedly would prove the very best article for use in stables, for the absorption of all offensive gases. They are exceedingly cheap. I pay a cartman for them, delivered at my house, about one cent per bushel.

Some three years since, I covered the surface of my rose and flower-beds, in the early part of September, as a protection against frost, since by their color, they attract and absorb more heat from the sun's rays, thus causing the more perfect ripening of the wood of my plants, and at the same time affording a farther protection, in that they covered the ground and prevented sudden evaporation, which carries off heat with such great rapidity. The experiment was entirely successful. Heliotropes, and other tender plants, remained untouched in the open ground until November, while in adjoining gardens, there were abundant evidences that frost had done its work.

If these cinders could be ground fine at a reasonable expense, they would be the *ne plus ultra* for use in stables. Indeed, as they come from the locomotive, they are probably by far the best substance that can be obtained for that purpose. Thus used, and then mixed with muck, or with pulverized peat, they would be invaluable.

CHARLES ROBINSON.

New Haven, Feb. 17, 1862.

OLD AGE.

You will look long to find a better description of extreme age than the following, which is taken from a play written in the year 1860, by Nathaniel Lee:

> "Of no distemper, of no blast he died,
> But fell like autumn fruit that mellowed long,—
> Even wondered at because he dropt no sooner;
> Fate seemed to wind him up for fourscore years,
> Yet freshly ran he on ten winters more,
> *Till, like a clock, worn out with eating time,*
> *The wheels of weary life at last stood still.*"

For the New England Farmer.

VARIOUS NOTES.

In your weekly of March 1st, I find two articles in strong contrast—the first on the production of the sugar beet for sugar and *brandy*, the other, in response to inquiries, taking a bold stand against tobacco. I am glad to know that we have some farmers whose consciences will not allow them to raise products, not only useless, but positively deleterious to the consumer; but it is with some surprise, as well as regret, that I find a correspondent of the *Farmer* holding up the inducement of great profits and large fortunes, as incentives to the production of an article, which, though it may indeed yield large money profits to the distiller and seller, must, if he has any regard for the welfare of others, do it at the expense of his own peace of mind, while its inevitable effects on the public at large are poverty and crime.

SNOW.

In the same number, an article from an exchange, after some very correct remarks on the advantage of a covering of snow for the earth, contains the statement that snow-water makes the skin harsh and dry, which any one who lives in the country will tell you is incorrect. The cause of this trouble (except in disease,) is often the use of hard water, or soap, or both, while snow-water is soft, and I find it the best remedy for roughness of the hands, &c. Some other items in the same article, I think, are contrary to the facts in the case, but as I have not yet proved them to be so, I let them pass.

FLESH OR FAT *versus* MILK.

"T. S. F." wishes to know how to treat a cow that gives so much milk as to keep her low in flesh. I infer from his remarks, that she did not give milk in the winter, and that advantage was taken of this to keep her cheaply. My advice would be, to adopt a contrary course, and after drying her off in the fall or winter, to take this opportunity to improve her condition. There will be no loss in doing so, because less food is required for a fleshy animal, and the milk will be more abundant, and richer in quality through the summer, than it would be from cows poor at the commencement of the milking season.

REMEDY FOR CURCULIO.

An extract from the Michigan *Farmer*, recently, recommends common elder as a specific for curculio. No harm will result from trying this, if it does not lead to the neglect of other and more effectual remedies, but I am of the opinion, that exemption from the curculio in this case was the result of some accident not observed by the fortunate orchardist. I have tried the same remedy for the striped bug, for which it has been recommended, with no effect, but to afford them convenient shelter in rough weather.

FEEDING MEAL TO CALVES.

In reply to my article on the above subject, "H." says reason would teach a man better, than to give "young calves a large quantity of corn meal." One would think that this would be so, but I have seen enough to convince me that some words of caution are not superfluous; probably because many persons do not realize how small a quantity, comparatively, is required by a young

calf. I think if your readers generally adopt "H.'s" plan of feeding potatoes, they will not always be as successful as he claims to have been, although he *may* have equalled his neighbors without any great success, after all. I have tried various methods of feeding, and have raised two or more calves to each cow, but my experience and observation, as well as reading, have convinced me that it is not profitable to raise any inferior, or even medium stock, and that every animal should be *kept gaining* until fully grown, or until sold for beef; and that the best way to do this, is to depend mainly upon milk for the first three months, and to begin with the lighter grains, leaving the heavier and more heating kinds, like corn meal, to finish off with. WM. F. BASSETT.

Ashfield, March 17, 1862.

EXTRACTS AND REPLIES.

A SICK STEER.

You will oblige me by stating the symptoms of the cattle disease. I have a four-year old steer that coughs a good deal, and rattles at the lungs some. He took cold, and I don't know whether the cough arises from that or the cattle disease.

GEORGE JENNINGS.

REMARKS.—The marked symptoms of the disease called pleuro-pneumonia are a short cough, particularly in the morning, or when the animal rises or is allowed to drink. Appetite slight and variable. Short and unequal breathing. The animal rarely lies down, or only for a short time, either upon the affected side or on the breast bone, with the fore feet beneath them or stretched out in front. The hair upon the chest and neck loses its lustre and stands up. The skin is dry, and is more firmly attached to the withers and walls of the chest than to other parts. Water excites cough, and is taken with difficulty. From the dry mouth, there flows more or less viscid, dirty, offensive fluid or a frothy saliva. The urine is dark brown, has a strong odor, and is passed with difficulty.

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WHEEL HOE AND SWEET POTATO.

I notice the inquiry of John H. Constantine, of N. H., in the last week's *Farmer*, for an implement to weed carrots by horse power. I do not think the Yankee is yet born who is to invent a machine that can discriminate between a weed and a carrot top; indeed, it is more than careless hands always do. And until this is done, (though we now have many excellent machines for cultivating between the rows,) we shall be necessitated to go through the back-breaking process of hand-weeding, which is the great drawback in raising this invaluable esculent. I have a wheel cultivator, made in New York city, which works very close to the rows, not leaving, if carefully used, over two inches in width, to be weeded by hand.

I noticed in the same number of the *Farmer* an article recommending the growing of sweet potatoes in our latitude. A word of caution, brother farmers, from one who has seen this elephant, and just allow the Jersey and Delaware people, with their warm light soils, and more suitable climate, a monopoly of this article, and not endeavor to cultivate a semi-tropical plant in New England, and possibly make yourselves a laughing-stock to your neighbors. Look well to the source from which the advice to raise them comes, and see if you can discern any dull implement near by which needs edging. W. J. P.

Salisbury, Conn., April 25, 1862.

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TANNING SKINS—MANGOLDS.

Will you, or some of your correspondents, inform me through the next number of the *Farmer*, and by so doing, you will confer a great favor—

1. What is the *modus operandi* of tanning skins of wild animals such as coons, foxes, &c., with the fur on, so that it may be suitable for robes, coats, &c.

2. Should I set mangold wurtzel for seed wholly under ground, or partly out of ground, as they grew? A READER.

Lempster, N. H., 1862.

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A FACT AND A SUGGESTION.

Mr. ELLSWORTH SAWYER, of Templeton, informs us that he has a cow that carried her calf *ten* months and *four* days before dropping it. He also states that it is the opinion of intelligent and observing persons that, if male and female animals come together in the morning, or before noon, the progeny will be males—and if at night, females.

THE GOOSEBERRY.

(RIBES GROSSULARIA.)

This is one of our most common indigenous fruits, and one that admits of easy cultivation. There are also some improved and imported varieties of great excellence, but it is with the native kind that we have now to do. The gooseberry should never be set in shady situations, or where it will not at all times have the advantage of a free circulation of air. It is true that its position in the woods and swamps precludes this advantage in a great measure, but nature obviates the necessity of this, by restricting the development of foliage, which a richer soil, and the energizing effects of careful cultivation, promote. If we examine a plant in its original condition, we shall find that its foliage is less abundant and profuse than in plants set out in cultivated lands, and this circumstance secures it the benefit of free air, of which, in the latter situation, it is often injudiciously deprived. By setting plants in open situations, and covering the surface about the roots with salt hay, or common meadow hay, or straw, wet with a solution of salt in water, and keeping the tops thinned so as to admit the air and light, the gooseberry will rarely be injured by rust or mildew. Frequent irrigation at noon-day, with strong soap suds, has a very sanatory and invigorating effect upon this plant.

For the New England Farmer.

FARM BUILDINGS AND FENCES.

MR. EDITOR:—I have been much interested in your State Legislative agricultural discussions, particularly those upon farm buildings. Every farmer knows the importance of good barns; those that will not only keep the hay and grain, but furnish suitable protection for our stock; and they should be adapted to the kind of stock we intend to keep.

For many years to come, undoubtedly, sheep-raising will be the leading interest in much of New England, and some parts of the West. An immense national debt, the sure result of this iniquitous rebellion, will create the necessity for a high tariff for half a century, at least, and in this way may benefit this large class of our farmers. In this business we need barns and sheds which will shelter every animal, and also afford perfect ventilation. I would much sooner my sheep would go without food for twenty-four hours than be exposed to one rain storm in the winter. Some of our Vermont farmers understand this so well, that they will not let them be exposed at other seasons of the year. With their wool soaked with water, and then frozen for several days, no wonder some of them die. Protection and good air, as well as good keeping, are absolutely necessary for success in this business. No stock pays better for a reasonable allowance of grain through the whole winter, and grinding is not necessary. In feeding oats, with good racks, even threshing can, in a great measure, be dispensed with; and some of our farmers have fed boiled potatoes to their sheep with better advantage than to any other stock.

In keeping sheep, I have found that wall fences without anything on their tops, will not stop them. Except where stones are very abundant and lumber scarce, I should prefer a board fence, if it can be made durable. Smith's fences (one of which has been illustrated in the *Farmer*) were shown at our county and State fairs in 1860, and as to durability I think them as much better than other wooden fences, as a house or barn well up on a stone foundation is better than one with the posts standing in the ground. Almost the only objection there can be to them is, they cannot be used where there are no stone, as on the prairies at the West. His fence No. 2, put upon our roads and railroads, would save thousands of dollars every year, in keeping our roads open on acconnt of snow drifts. A SUBSCRIBER.

Chelsea, Vt., 1862.

PREPARING PAINT AND PAINTING.

The best, most durable and neatest kind of paint for any kind of tools or implements, is a light blue. This is far better than red, as blue will reflect more of the heat of the sun than red. Consequently, the wood which is painted, will be heated and sun-checked less when painted blue. During the warm days of March, let tools and implements be washed clean, and painted blue. To prepare blue paint that will dry soon, procure good boiled oil, which will cost about ten cents more per gallon than the unboiled. Procure a quart or more, according to the amount of painting to be done, of liquid drier or laquer. Then take one pint of oil, half a pint of drier, and mingle, by stirring in with a stick, enough white lead to make it about as thick as cream. Zinc white is the best, unless a man has an apparatus for grinding the lead. Zinc will require no grinding, but must be thoroughly stirred, and all the lumps mashed. Now put in one or two, or three tablespoonfuls of Prussian blue, and stir it thoroughly, But a small quantity of blue will be necessary to make a handsome blue paint. If it appears too light colored, put in more blue. Paint, prepared a few hours before it is used, will work better than that just prepared. If the oil and drier are good, paint prepared according to the foregoing directions, will dry in from one to two days, although it should be allowed from one to two weeks to become hard. For green paint, let the white lead or zinc, and oil and drier be prepared in the same way as for blue, and put in green, instead of blue. Continue to put in green until the shade is dark enough to suit the fancy. Yellow paint may be prepared in the same manner by using chrome yellow with the white lead.—*Country Gentleman.*

For the New England Farmer.

INFLUENCE OF ATMOSPHERE ON SOIL.

The above subject was discussed in the *Concord Farmers' Club*, on the evening of the 16th of January, 1862. I send you my recollections of the remarks of one of the members. Although aeration of the soil, or the bringing of the particles of the atmosphere and the particles of the soil into contact, and the chemical and fertilizing effects resulting from this contact, are in themselves distinct subjects, yet, practically, the two subjects must be considered together. Without bringing the particles of air and soil into contact, no chemical effect can be produced. Indeed, our principal work in relation to this matter is, by all the means we can devise, to bring about this contact. The laws of nature will set up and carry on the chemical actions, over which we can have very little control. One effect of draining is, to admit air in the place of water. This renders the soil light and porous, and enables the gases given off in the soil by the decomposition of manurial substances, to permeate through the soil, like the carbonic acid from yeast in bread. The atmosphere and gases thus introduced into the soil keep it in such a condition that the roots of vegetables can traverse it in search of nutriment. Without the presence of the oxygen of the atmosphere, putrefaction and fermentation cannot go on, as oxygen is the great agent in decomposition.

There are elements in the soil which have an affinity for elements in the atmosphere, and when they are brought into contact, they act on each other, and form food for plants, or stimulants which plants need. Frequent stirring of the soil brings these elements into contact. Alkalies and other salts, present in the soil, attract moisture from the atmosphere, and thus enable plants to endure drought. Plants in a rich soil, as experience proves, endure drought better than in a poor soil; and in a rich soil, salts of different kinds are always present. These salts are mostly deliquescent, or naturally attract moisture from the air, and dissolve. Hence in a dry time, soils should be frequently stirred. Draining, subsoiling and

deep culture, all contribute to bring the air and soil into contact.

This is, then, a practical subject. Plants, as well as animals, breathe. They cannot live without air; elements necessary to their growth are furnished to them through the medium of the soil, also. The atmospheric ocean by which we are surrounded, is the great storehouse of nutrition for them as well as for animals. Jethro Trull believed that plants derived all the elements of their growth from the atmosphere and water. In this he was probably mistaken. But it is undoubtedly true that soil hermetically sealed from the air cannot yield nutrition to plants. Organic substances closed from contact with the air, do not decay, and consequently, cannot be converted into food for plants. This is a broad subject, and these few remarks are suggestive of thought. They show us how the teachings of science and the results of the best practice perfectly agree. Careful experience confirms the lessons of science.

J. R.

For the New England Farmer.

WORK SHOP AND TOOLS.

MR. BROWN:—Being at present laid up for repairs, and not allowed the "liberty of the yard," I propose to make a few comments upon some items in your last issue. I am quite tenacious about disagreeing with one point in your editorial, viz.: workshops and common bench-tools for every farmer who is not independent enough to afford to pay some mechanic. I do not propose to argue for rich farmers, unless they have boys, in which case I must class them and their poorer neighbors together. I will not speak particularly of the profit, or saving, often resulting to farmers near or remote from mechanics, or of our mutual obligations to support their trades.

My own observations, which have been somewhat extended among Yankee farmers, are, that, as a general rule, the men who have poor tools and learned the use of them in boyhood to some extent, furnish the mechanics a greater amount of work than those who do no mechanical work at home. The cause is obvious. Such a man is accustomed to do little jobs in repairing and improving his tools, &c., and if, (as is usually the case,) he sees more such work needed than he has time to do himself, he cannot rest satisfied till he has employed another to put his little job in order. And this for the reason that the genteel hatter notices your hat and the boot-maker your boots quicker than the opposite. The result is, that you will find his tool more handy, his contrivances to save labor and thereby expedite his farm work more to your mind, than those who either go to the shop, or as is more often let alone, the various little jobs so often needing attention. Such men will use natural crooks and the old sled long after their time is out, because they can't go off to get it done at the shop. They will take down and put up two sets of bars for every load or hay or manure, where two hours and a hammer, axe and auger, will make a good substantial gate. Can't spend time to go off.

But this is not the main point. It is the moral effect of such workshops on farmers' boys. You, sir, speak of unpleasant recollections of those "rainy days." Your experience and mine differ essentially. In all my boyhood, along with a baker's dozen of urchins, those rainy days would not come often enough.

Don't you remember the boats, and ships and houses, the saw-boys, the up-and-down saw-mills for the little brook, the water-wheels and wind-powers, the paring machines and tip-tops to amuse the little ones, the hand-sleds and the larger sleds that we used to make at Nod?

I do not argue that we were made richer in after life, as I might show, but I do affirm that for many a day we were contented to go out to the shop, instead of going to the village to associate with boys, who like ourselves, were ready to lead or be led into wrong practices and ultimately bad habits.

Now, sir, if I may be allowed a space in the *Farmer*, let me urge every farmer, whether rich or poor, who has boys, either his own or others' children, to have some tools, as many as he can, a turning-lathe if possible, and a place to use them, and let the boys have some of these rainy days, and see if the boys don't improve,—to say nothing of the additional care he will bestow upon his own farm implements. P. J.

Vermont, March 3, 1862.

REMARKS.—Happy boy! And that often makes a happy man. We think we agree with you entirely. You were judiciously directed. Had opportunity to make things which *your own taste* prompted, instead of being obliged to delve every hour of every rainy day in patching up old harrows and ox-carts. We are decidedly in favor of the tools and the work-shop, and supposed we wrote so with clearness.

For the New England Farmer.

CARE IN PLANTING.

MESSRS. EDITORS:—I have recently met with several farmers who used Coe's superphosphate of lime last season on corn and other crops.

In some instances the corn failed to come up. In others it came up, and when 10 to 15 inches high, it assumed a sickly appearance and ceased to grow. My attention was called to a case of this kind last August. On examination, it was found that the phosphate had been dropped in the hill all in one place, covering not more than 2 or 3 square inches, a *little* earth placed over it and the corn dropped on it. The corn sprouted, and as the root extended downwards, it soon entered the phosphate, which was too strong for the tender root, and this caused the failure.

In using this powerful fertilizer there should be no more than two-thirds of a gill used in a hill at one time, and this should be spread over a surface of 4 or 5 inches and should be mixed with the soil. Many persons have used a table-spoon to measure and put it on with. It can be more evenly distributed with the fingers.

Where it has been used and no failure from *this cause*, it is almost universally spoken of as having produced the best effect both in increasing the quantity and hastening the maturity of the crops. JOHN R. HOWARD.

North Easton, April 21, 1862.

For the New England Farmer.

WHY FARMING IS NOT PROFITABLE---CROWS AND ROBINS---BOOKS.

MR. EDITOR:—When I was a school-boy I had a copy set in my writing-book that read thus: "Many men of many minds." I find this to be a great truth in relation to almost any subject, and especially in relation to the subject of farming. In regard to the profits of farming, I have a word to say. My father was one of the old-fashioned sort of farmers, and he managed to accumulate as long as he was able to labor. He had a family of eleven children, all of which, but one, lived to grow up. He, unlike most farmers of the present day, made his own carts, plows, yokes, sleds, harrows, and mended his broken chains and harnesses, patched and shingled his buildings when needed, did his own and others' butchering in the fall of the year, and in fact, turned his hand to almost anything that was useful and needful.

His boys were not allowed to idle away their time in running over the fields with gun in hand to shoot the little birds that sang so sweetly upon the tree-tops, nor were they allowed to be off to the ponds a-fishing every day; but their lot was to assist on the farm. The stones were to be picked up that were in the top-dressing, so that the keen edge of the scythe should not be taken off; manure was to be hauled on to the fields, and the ground must be plowed and planted, and the boys must drop the corn and pumpkin seeds, and help in every department of farming operations. The girls were useful in-doors in assisting their good mother in cooking, washing and mending, making soap, carding, spinning and weaving; they also prepared the swine's food, and helped the boys to milk the cows, and fed the hens and chickens, brought in the eggs from the coop, and did not feel it above their dignity to take a rake in hand if there was a prospect of a shower to wet the new-made hay.

I am not going to say that my father's mode of farming was the best, but I do say that it would be well for modern farmers to imitate his example, by bringing up their children to be industrious, economical and useful, and then they can depend upon it that their boys will make farming profitable. It is a great fact that cannot be denied, that the young of the present age are brought up to cherish extravagant notions in relation to all matters of life, and thus it is the farmer is not able to lay up, or even to meet, his demands, for the reason that he tries to have his children indulged in the extravagances of the times. Young man, if you would succed in farming or any other avocation, save that dime in the corner of your pocket-book, and not spend it for that vile stuff, tobacco, which is undermining your health as well as your purse; if you do not join the sons, show to the world that you are temperate in all things; dress neatly but not extravagantly, cultivate your moral nature, that you may reverence all that is good, and the consequences will be that man will praise, and God will bless you.

Let me say that I love farming—it is the joy of my life. I can hardly wait for the season of birds and flowers to come. What soul is not touched by the voice of the blue-bird and robin? If there is anything that will elevate our hearts to our Heavenly Father, it is the return of spring, with its ten thousand melodious voices, which are ringing all about us, with one universal shout of praise to God.

I see that some of the contributors to the *Farmer* are opposed to the killing of the crow. They say he is our friend, because he destroys many grubs, &c., and the same arguments are used in favor of the robin. They forget to tell us that the crow destroys every robin's nest that he can lay hold on. The crow is so bold that he comes in my orchard close by the house and robs every bird's nest that comes to his view. Now which do the farmer the most good, the crow or the smaller birds? I leave it to your readers to decide. My views are, that everything that is made answers life's great purpose. One species of life answers for food for another. We see this to be true, and no reasonable man will deny it. Who will deny that it is unnatural for a cat to catch a mouse, or a crow a robin, or a robin a grub. If, then, they destroy one another for the purpose of sustaining life, why has not man a right to destroy them, in order to save his fruits and grains from their depredation? We must decide this question by taking into consideration the good and damage they do us, and acting accordingly.

Some six weeks ago, while examining my young apple trees, I found some caterpillars' nests. I took them and put them into a vial, and set it on the mantel-shelf, being about one foot from the stove-pipe. Some of them have since hatched, but not having any food, they have died. I infer from this circumstance that the requisite temperature to develop the apple tree buds into leaves hatches the caterpillar's eggs. It seems, then, that the apple tree leaves are the natural food of the caterpillar. Now, because that is so, shall we abandon our fruit trees to their use? God made the caterpillar as well as the crow and robin, and if it is right to destroy the one, why not the other?

As I have before said, we are governed by the necessity of the case. One man devotes his attention to the raising of fruits; the birds are his sworn enemies, and he is bound to exterminate them. Another cultivates the grains and grasses; he, consequently, is not troubled much with the birds, so he is willing to let them live. So it is as my copy reads, "Many men of many minds."

One word relative to patent manures. They, like patent medicines, claim to cure all, no matter how poor your land. A table-spoonful put in the hill will insure a good crop. No doubt there is fertilizing matter in these manures, but the question is, does it pay for the farmer to buy them at the prices now asked for them? I think not. It is one very important part of a farmer's business to make the manures that are to be used on his farm. Let him see to it, that there is a sufficient quantity of meadow or swamp mud by his pig-sty, so that he may replenish it when needed. Put some under the hen roost and in the barn cellar and under the cattle and horses. If he has no mud on the farm, use the best soil that he can spare, that is on the farm. If he lives near old ocean's shore, let him draw the kelp that comes ashore in some of those north-east storms that we are subject to, and spread it upon his grass lands, or compost it. There are good farmers in the town of Marshfield, and they know the value of kelp, I should judge, by the numbers drawing it off when it comes ashore.

The farmer needs very much to have access to agricultural reports, both State and national, and every town should have a town library, and they should be entitled to one or more volumes, so that every farmer can have access to them. I know that many farmers laugh at the idea of book farming, and say that they want something that is more practical. They forget that among a multitude of counsellors there is wisdom. I know that farmers can obtain much information by reading agricultural matter, and they are those who profit by it. Let me say, as I close, that the monthly *Farmer* is to me an indispensable household article, and I greet its monthly visits with great pleasure. OTIS P. JOSSELYN.

Pembroke, Feb., 1862.

REMARKS.—Thank you, sir.

COWS VERSUS HORSES.

At a plowing match held on the estate of the Right Hon. Earl Ducie, Crummel Park, we noticed, says *Bell's Messenger*, a team of cows, engaged in plowing at one end of the field; and as they appeared to exact a tolerable amount of attention, we thought it worth while to make a note or two on the spot. The animals were polled cows in full milk, and belonged to Mr. John Evans, of Woodford, Gloucestershire, who is, we believe, a small enterprising farmer. Two of the cows were rather old; the hindmost one, the owner assured us, had been worked regularly during the last seven years, has had a calf every year, and one season was worked up to the day previous to calving. The middle cow was a three year old, and this was her second season, the owner putting his cows to the plow at two years old. Our readers must bear in mind that these cows were in full milk, being milked twice every day; on very hot days it was found necessary to milk them three times.

Mr. Evans assured us that the cows gave more and richer milk when they were regularly worked, and that the goods were larger in amount, as well as better in quality; to use his own words, when there was a less quantity of goods made, his wife would tell him that he had not worked the cows so much, which was invariably the fact. Our readers will, of course, imagine that the cows were, and ought to be, well fed; hay, oil-cake, bran and chaff, we were told, was the food given them during their working time. We give no opinion as to the policy of working dairy cows as above, leaving our readers to draw their own conclusions. We must say it was rather slow work, although the plowing was pretty well done, and there seemed no lack of strength or will on the part of the cows.

PURE BEES-WAX.—Messrs. STIMSON, VALENTINE & CO., 36 India Street, Boston, sent us a sample of refined bees-wax, the other day, which surpasses in clearness and purity any we have ever before seen. Those who desire wax for household or for grafting purposes, can obtain it of them of the best quality. They are, also, dealers in paints, oils and varnishes, and sell at moderate profits. Call and see them.

For the New England Farmer.

AGRICULTURE IN OUR COLLEGES.

MR. EDITOR:—In a former article I endeavored to show that agriculture could not be successfully taught in our common schools. In this communication I propose to offer a few reasons why I think it can not be successfully taught in our colleges. To be taught successfully, it must, in my opinion, be taught in the family and on the farm, or in farm schools provided expressly for the purpose.

Our colleges were established for the sole purpose of educating young men for the learned professions. All the college studies prove this, from the study of the dead languages to the higher branches of mathematics and metaphysics. They were designed to teach all the higher branches of science and art, and lay a solid foundation for future eminence and usefulness in the different professions. Thus far, they have done this, and done it well. They are still doing it faithfully and impartially, taking young men from all the walks of life, and training them for the higher fields of usefulness.

But our colleges cannot teach everything; and it is more than ought to be expected of them. They have enough to do to teach and explain the general principles of science and art, without attempting to teach the particular principles of scientific agriculture which is so foreign from their general object and instruction. They cannot, if they would, teach agriculture, and teach it well, because they have not the means of doing it. Agriculture is an art, as well as science, and it requires not only theoretical but practical instruction, such as can be given only on the farm and in the field. Our colleges cannot do this. They cannot go out into the fields and teach all the various branches of agriculture by example. They cannot bring together the young farmers in the State, nor can they reach, influence and benefit them. They cannot teach by precept and example. Every one at all acquainted with college life and studies, and with what is daily going on there, must be fully convinced that agriculture cannot be thoroughly taught there, without interfering with the college exercises and studies. Besides, college students engaged in the study of other languages, and of the higher and more obstruse branches of philosophy and mathematics, can have but little sympathy in common with the student in agriculture, because their tastes, their habits, their ideas, their intellectual improvements, are so different. There would be a great gulf between them on the subject of their studies, their views and feelings; and a small prospect of harmony in their daily intercourse. It is easy to see that our colleges, designed and instituted for literary purposes, are not the right place for the education of the young in agriculture. Crops, soils, manures, the rearing and feeding of animals, and the management of the dairy, cannot be conveniently or successfully taught there. These must be taught in the family and on the farm, or in farm schools established for the purpose, where everything may be taught by example.

Either agriculture does not need schools, or the right kind has not yet been established. Students in agriculture should be under the instruction of a teacher who is at once scientific and practical—

capable on the one hand of directing their studies, and on the other, of showing them the best samples of all kinds of farm-work, done by himself. A portion, at least, of his lectures, should be in the open field, with the hoe, spade, scythe or axe in hand. His language to his pupils should be, "This is the way to do the work; follow my example—do as I do." He should be able to do anything that is to be done on a farm, and to give a reason for its being done in the right way. He should explain the different kinds of crops, the modes of culture, the nature of soils, and point out the practical excellences and defects of farmers. All his instruction should be at once scientific and practical.

After all, the great body of young farmers must be educated, if educated at all, not so much by learned and scientific lectures, as by the example and practice of others, by reading agricultural books and papers, and by their own effort at self-improvement. Our State, county and town societies, as well as our farmers' clubs, have all the characteristics of a school of the highest order, in which all may be learners as well as teachers, where practice instead of theory, and facts instead of conjectures, are the best authority. This is the best system of agricultural education for us to adopt for the present, till we have the means of establishing farm schools in every county in the State. JOHN GOLDSBURY.

Warwick, March, 1862.

For the New England Farmer.

"DISSEMINATION OF FOUL SEEDS."

MR. EDITOR:—Under the above heading, "O. K." calls for the views of your correspondents, suggesting remedies for this growing evil. The subject is an important one, and doubtless much improvement might be effected, but there are many difficulties in the way of such laws and regulations as your correspondent suggests, and I think each individual must depend mainly upon his own skill and care.

If our country were all under cultivation, like some European countries, we might exterminate almost any plant we chose; but with our large tracts of uncultivated and uncultivable land, which the owners do not, and cannot examine carefully once in five years, the case is quite different, because a few seeds ripened in some out-of-the-way corner are often sufficient to place a weed almost beyond the control of ordinary farmers.

In my opinion, the best remedy, aside from our own watchfulness, is to do all in our power to induce farmers to obtain some knowledge of botany, or in other words, to become so familiar with the plants growing in their own vicinity, that any new plant will attract notice immediately, and not be allowed to spread, until its character is ascertained. A familiarity with the appearance of different seeds is also necessary to enable the farmer to select that which is free from noxious weeds, and he should, as far as possible, deal with seedsmen who have this knowledge, and are honest enough to give him the benefit of it.

Much has been done, and much more may be done, by agricultural books and periodicals, by giving *illustrated* descriptions, including the seed of various weeds, especially such as are most likely to be diffused where they do not already exist.

There are several plants which I have reason to think are at present becoming too common in some sections, where they can be eradicated if attended to before spreading any farther, and I will give some description of them.

RUDBECKIA HIRTA.—This has been recently introduced in grass seed, and is sometimes called yellow daisy. It has quite a resemblance to the daisy, but the leaves are entire or nearly so, (that is, not notched or cut like the daisy,) and the petals of the flower are yellow, with a purple cone in the centre, in the form of an old-fashioned straw beehive. This has been removed to the garden by some, but should be extirpated from both garden and field, as it is becoming quite troublesome in some places.

CHICCORY.—This plant, which is very common in the vicinity of Boston, I have never seen in the Western part of the State, until quite recently I found a single plant of it growing in a newly-seeded field, and my farm assistant told me that he saw such a plant in a similar situation on his father's farm. Evidently, these were introduced in grass seed, and judging from its appearance elsewhere, I think it cannot too soon be banished. "A stitch in time saves nine." This plant, before throwing up its seed stalk, has some resemblance to the dandelion, and when in flower, is easily known by the unequal length, notched edges, and pale blue color of its petals.

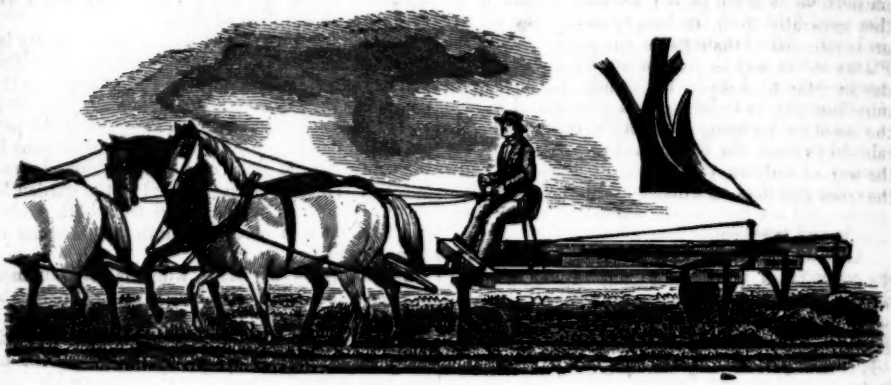
SPURRY.—This plant was also introduced with grass seed on my farm a few years since, and has given me considerable trouble. It bears some resemblance to a plant sometimes called "horsetail," but is much more succulent, and is an annual. The leaves are linear, thickened or fleshy, and grow in whorls. The flowers are white, and rather insignificant, and followed by a round seed capsule little more than an eighth of an inch in diameter. I believe this is sometimes called "pine weed," and although recommended by some to be grown for "turning under," is too dangerous to be admitted to our fields.

I neglected to state that Rudbeckia and Chiccory are both perennial plants.

Ashfield, 1862. WM. F. BASSETT.

GOOD FOR OXEN AS WELL AS HORSES.

At the New York State Agricultural Fair at Watertown, was a boy of sixteen, who controlled cattle with as much skill as Rarey controlled horses, and by using the same law, the law of kindness. He trained and handled six steers not two years old as easily as an experienced driver would a single pair in yoke, and yet he had no yoke nor rope; he did not speak to them in a loud voice, and only occasionally struck them a slight blow. A spectator describing his movements, says he would bring up a single pair as if yoked together, then two, and then three pairs; then he would mismatch them, putting odd ones together, and then bring them in a line like a platoon of soldiers; then he would train them around by twos and threes, or drop one and order him to a new place, all by a motion of his little whip. Being asked if he could manage eight as well as six, he said he could if his whip was a little longer. He tried, and succeeded with ease, impressing upon all who saw him, the great benefit of kindness and determination in the treatment of cattle.



SUTTER'S GANG PLOW.

This is a combination of from two to six, or more, plows, easily managed, and requiring only the attendance required for the single plow. We have never seen the implement itself, but have examined a model with much interest, and at the solicitation of the patentee, we publish the following description. The celebrity now attached to the steam plow arises from merits which are likewise due to "Sutter's Plow," and the latter has this advantage, that all farmers have their horses and oxen, and none have steam machines to plow with. The principal merits of the New Gang Plow are, that it will do the work of two to eight single plows, being capable of breaking up from four to twenty acres of land per day, requiring the attendance of but one man, saving both time and labor, and at the same time doing very thorough and superior work. By a very simple device, the angle of the shares can be instantly regulated by the attendant.

The height of the plow from the shares up to the beams is 21 inches; the length of the shortest beam is 6 ft. 2 in.; and every succeeding beam increases 16 inches. The plow rests in front on wheels, independent of each other, and capable of turning in every direction, just as the team moves. The wheels are placed in a line, parallel with the line of shares. On the top of the plow is a long seat for the driver, running parallel with the same, near which the mechanism is attached to work the shares, so as to lead the same in and out of the ground, and to regulate the position of the shares to cut the required depth of furrows. In case there should be some hard places in the field, the driver has only to move a little backwards on the seat, which will increase the pressure on the shares, forcing the same through the hard places, and gain thereby the required depth without altering the position of the shares.

Every description of shares can be used and applied to this Gang Plow, the same as in single plows. The usual pressure of the single plow towards the land side is by this combination quite prevented, as the shares for single plows stand a few inches towards the land side, to keep them in the furrows, which naturally causes a great pressure and an unevenness of the ground, while the shares in Sutter's Gang Plow stand straight to the plow, saving thereby much of the draught power.

The teams may consist of from two to ten horses, or from two to six yoke of oxen, according to the size of the plow.

The plow has been proved in several cases, and its work was of the most satisfactory character.

JOSEPH SUTTER.

112 *Pleasant Street, Boston.*

For the New England Farmer.

BIRD MUSIC.

Now lav'rocks wake the merry morn,
Aloft on dewy wing;
The merle, in his noontide bower,
Makes woodland echoes ring;
The mavis wild, wi' many a note,
Sings dowsy day to rest;
In love and freedom they rejoice,
Wi' care nor thrall opprest.—BURNS.

Who has not felt a thrill of pleasure and delight while listening, on a warm spring morning, to the notes of the newly arrived bluebird, robin, or song-sparrow? Although these birds are inferior in power of song to many of the birds which visit us later in the season, yet as their music is the first which greets our ears after the silence of winter, it has a peculiar charm. During the winter the shrill cry of the blue jay, the caw of the crow, and the soft whistle of the chickadee, are pleasant to hear; but on the arrival of the spring birds the voices of the crow and jay seem harsh and discordant, and the little chickadee's tune sounds faint and monotonous. The flute-like notes of the bluebird and robin, and the clear twinkling sound of the sparrow's song, also lose much of their attractiveness when the wood thrushes, blackbirds, orioles, or golden robins, bobolinks, and warblers make their appearance.

The red-winged blackbird is one of our earliest, and, in my estimation, one of our best musicians. Although his song when alone is not remarkably musical, yet, when a large flock sing in concert, as they generally do in the early spring, there is a great richness in their lively and gushing melody. Flocks of these birds often sing during a rainy day in March or April, and their sweet chorus mingling with the rushing sound of the waters in the swollen streams, with the pattering of the rain-drops upon the roof, with the whispering of the warm south wind among the swelling buds of the trees and flowers, falls

"Upon the spirit like a dream
Of music on the hour of sleep."

No discordant notes are heard in that bird-choir, for all have correct, musical ears, and they appear to "sing with the heart," if not "with the understanding."

It is about the first of May; and as we wander forth on a calm evening between sunset and dark, sounds of melody fall upon our ears. They come from yonder wood-covered hill. All other sounds are hushed but the peeping of the frogs in the distant marsh, or the ringing sound of the soaring night-hawk's wings as he, at intervals, makes a sudden swoop towards his mate far beneath him. Hark! those melodious strains are heard again, and they seem like a voice from the spirit land! It is the song of the wood thrush. Heard when all nature is sinking to repose; when the floating clouds above the western horizon are tinged with purple, crimson and gold; when everything in the outward world is giving evidence that winter is over, and that another summer, with its fruits and flowers is just before us; the voice of this little songster has a charm, a fascination, which has been sought for but never found in the song of any other American bird.

What Isaac Walton says of the English nightingale's song may be applied with equal force to the music of the wood thrush, or American nightingale. "But the nightingale, another of my airy creatures, breathes such sweet, loud music out her instrumental throat, that it might make mankind to think that miracles had not ceased. He that at midnight, when the very laborer sleeps securely, should hear, as I have very often, the clear airs, the sweet accents, the natural rising and falling, the doubling and redoubling of her voice, might well be lifted above earth, and say,—*'Lord, what music hast thou provided for the saints in heaven, when Thou affordest bad men such music on earth!'*"

The cheerful voice of a larger species of the thrush family—the red mavis, or "brown thrasher," as he is frequently called—begins to be heard when the husbandman is preparing his grounds, or dropping the seed for a future crop. Perched upon the top of a tall tree near the field, he pours forth his song of love and gladness for the especial benefit, it would seem, of the farmer. What a happy world this would be, if the song of this, and every other feathered musician, brought to the mind of the listener thoughts of a still sweeter voice, the voice of a *loved* and chosen companion! If all could sing from the heart the words of that beautiful and well-known song, "Mary of Argyle."

While Nature is enrobing herself with a mantle of green, and decking her fair bosom with flowers, while the air is filled with fragrance, with the hum of insects and with innumerable sounds of life and activity, the birds continue to arrive. Every day the winged orchestra receives new additions, until the band is full; and now the fields, groves and woodlands resound with silver-toned, enchanting harmony. The larks and bobolinks in yonder meadow sing as if they were in a perfect ecstacy of delight; the mellow notes of the golden robin and the loud voice of the woodpecker are heard in the orchard; the warblers, thrushes and other birds of song enliven the woods and groves with their joyous strains.

"Music awakes,
The native voice of undissembled joy;
And thick around the woodland hymns arise."

How much pleasure a person loses who cannot appreciate or take any interest in the music of the feathered choir; and how deficient in knowledge and refinement those individuals must be who consider that birds are more of a curse than blessing; and who, instead of endeavoring to increase their numbers, and their love of man, use various means to destroy these useful creatures, and drive them from human abodes!

What a void there would be in nature during the spring and summer; what a strange silence would brood over all the fair landscape, if the birds should cease to visit us! Their absence would be felt more than the loss of the flowers, with all their beauty and fragrance.

South Groton, April, 1862. S. L. WHITE.

For the New England Farmer.

THOROUGH-BRED HORSES.

In the May number of the *Farmer*, "J. W." inquires how to breed a thorough-bred horse? A thorough-bred horse is one whose pedigree can be traced without a flaw, in both lines, paternal and maternal, to Oriental blood; that is, to such horses as Godolphin, Darley, or Wellesley Arabian; or, it would be sufficient to entitle a horse to be called thorough-bred, if his pedigree could be traced clearly to some well-known racer, like Eclipse, or Flying Childers.

To raise a thorough-bred, then, it is necessary that both sire and dam be of pure unmixed blood. It does not follow because a horse is *imported*, that he is thorough-bred; it all depends upon the clearness of his pedigree. Nor can there be any such thing as a thorough-bred Morgan, or thorough-bred Black Hawk, for they all necessarily possess other strains of blood.

If "J. W." will call upon me, I will show him a thorough-bred, whose blood I can trace without a stain, through the space of over one hundred years.

Littleton, May, 1862. J. A. HARWOOD.

THE HORTICULTURIST.—The May number of this popular journal is embellished with a fine representation of *Rogers' Hybrid Grape*, No. 4, and its pages are crowded with useful and interesting horticultural matter. Its editors are capable and industrious, and are giving the work a popular character.

Never hire a man to do a piece of work, which you can do yourself.

THE DAM AT NORTH BILLERICA.

We offer no apology for continuing the history of the unjust usurpation of power in rebuilding the dam at North Billerica, and the loss and distress which it has caused to hundreds of the industrious farmers of the State. We have an unshaken faith in the justice of our people, and that future legislators will see how shamefully the elections have been corrupted by a combination of moneyed power, and the rights of a large number of our citizens trampled under foot. But this state of things cannot last. When the history of this oppression is better understood, the public voice will demand its suppression, and we trust compel the oppressors to compensate the farmers for the damage done to their property. We believe the determination to repeal the act of 1859–60, to remove thirty-three inches of the dam, was a foregone conclusion by the last Legislature, on the day that it first met. Such had been the influence exerted on the elections in every part of the State. We knew of this, as we were repeatedly notified, during the summer and fall, that one or more persons were visiting various portions of the State, and it was supposed were forestalling the public mind in this matter. The result justifies the supposition.

We recently gave one chapter in the early history of the controversy still going on between the owners of meadow land on Concord and Sudbury rivers, and now continue it a step or two farther. This dam was first erected about the year 1710. It was removed in 1722, by order of the Governor and Council, under the act establishing a "commission of sewers." This removal ends the first chapter in the history of the long controversy between these meadows and this dam.

In a second report of the Commissioners of Sewers, dated January, 1723, we learn that the dam was found built again, within two months after its removal. The Commissioners promptly appointed responsible men to repair to Billerica, "and if they found any mill-dam, to inquire who erected it, and to take notice of the height and dimensions of it, that His Excellency and Council might be truly informed of the matter of fact." This report was either never made, or has been lost. The existence of the new dam, however, is well established.

When the existence of the new dam was known to the meadow-owners, with the prompt energy for which the inhabitants of Concord valley have always been noted, they at once adopted measures to bring an action against Mr. Osgood, under an act passed in 1709. This act is entitled, "An act to prevent hedges, weirs, and other incumbrances, obstructing the passage of fish in rivers." It provides that whoever "obstructs the usual passage of fish in the spring, or proper seasons of the year without approbation or allowance first had and obtained for the same, in manner as in and by this act is directed," shall be regarded as creating a "common nuisance," and declares that this "nuisance shall be demolished and pulled down, *not to be again repaired or amended*; and that on complaint made to the General Sessions of the Peace," &c.

We may remark in this connection, that large quantities of shad and alewives were formerly taken from this stream, even so far as twenty-five miles from the dam. The inhabitants of the towns bordering upon the river held their fishing privileges in high estimation, even within the memory of many persons who are now living. It was natural, therefore, that an obstruction which impeded the flow of the water, and prevented the natural course of the fish, should be regarded with aversion, by men with intelligence enough to know their rights, and with determination enough to assert them.

It is worthy of remark, that the meadow-owners complained of the first dam for two reasons; because it kept back the fish, and because it flowed back the water over their lands. Against the new dam they brought only the first complaint. We naturally infer, therefore, that while the new dam obstructed the passage of the fish, it was not high enough to cause the meadows to be overflowed. It is, therefore, reasonable to conclude that this dam was not so high as the first one.

In May, 1723, the town of Sudbury, at a legal town meeting, chose a committee, and empowered them to prefer a petition to the General Sessions of the Peace, "that the stoppage and obstructions upon Concord and Sudbury rivers may be removed, which is a hindrance to the free passage of the fish." This Committee prepared and presented a petition as they were directed, asserting that "they humbly conceive that the said dam is a nuisance, being so far from being lawfully and orderly made as that it was placed there in direct opposition to the order of the Commissions of Sewers."

In July of the same year, the selectmen of Concord, five in number, presented a petition to the Court of General Session, in conjunction with the petition from Sudbury. The following extract from this petition presents the cause of complaint in a clear and forcible manner. After alluding to the existence of the above mentioned "Nuisance Act," the petitioners say: "The ancient town of Concord hath ever, from the first settlement thereof, enjoyed the privilege and benefit of the fish coming up Concord River, without any incumbrance or obstruction, until sometime in or about the year 1709, at which time there was a mill dam erected across the said river, in the township of Billerica, in the county of Middlesex, to accommo-

date Christopher Osgood's mills, which, some time in the month of September, 1722, was pulled down and demolished by order of Commissions of Sewers, for the relief and benefit of the meadows and low lands above said dam; since which time, another dam hath been erected across said river, in, or near, the same place, where the former was made for the accommodation of Christopher Osgood's mills, without any order or leave from authority, the which dam almost wholly stops the natural and common course and passage of the fish up said river, which (if not obstructed as aforesaid by mill dam) would be of great advantage and benefit, not only unto the inhabitants of Concord, but also unto the inhabitants of several neighboring towns."

These petitions asked for "speedy relief by the removal and demolishment of said obstruction." In the Superior Court of Sessions, in December, they were considered, together with the answer of Mr. Osgood, who was notified that they had been presented. "Both parties being fully heard, the Court considering thereof, *do declare the said dam to be a common nuisance*, and order that the Sheriff do demolish and pull down the same by the first day of April next following." From this decision Mr. Osgood appealed to the Superior Court of Judicature, and gave bonds to prosecute his appeal according to law. As the proceedings in this Court upon the appeal were both extended and interesting, we shall defer an account of them till another paper.

For the New England Farmer.

TWO EXPERIMENTS WITH POTATOES.

In the spring of the year 1860, I had a few bushels of coarse horse manure, and about a peck of small potatoes. None of the potatoes would weigh more than an ounce or two, each. I own a few acres of poor, sandy land, covered partly with June grass, and partly with shrub and white birch. About the last of May I loaded the manure, potatoes, a small horse-plow, a shovel and myself and an old one-horse wagon, and went about two miles to the land before described, and climbed to the top of the highest knoll where the sand was covered with a kind of woolly grass, spread the manure and dropped the potatoes about one foot apart, till I had dropped 40; parallel with this row, and three or four feet from it, I dropped another row, and the potatoes were so small, I made five rows 40 potatoes long—200 potatoes to the peck. Then I took the plow and turned a thin furrow each way on the potatoes, covering them under the sod about three inches, leaving the grass between the rows to do whatever it pleased till October. I then made them a visit, and took from under the sods four bushels of good-sized, good-looking and good-eating potatoes.

In 1861, I repeated the experiment with three little loads of manure, one bushel of potatoes and four times the quantity of ground.

Result:—10 bushels potatoes; 3 large pumpkins, weight 90 pounds; 10 small ones; 2 large marrowfat squashes, weight 12 pounds, and lots of green ones.

Now, brother farmers, I am 73 years old, and if any of you dare compete with me in farming, let me know it. DANIEL SPAULDING.

Fitzwilliam, N. H., April, 1862.

For the New England Farmer.

GYPSUM.

MR. EDITOR:—I noticed an article upon this subject under the heading of "Retrospective Notes," which appeared in the weekly issue of Nov. 30th. The writer says that farmers are "out at sea," and plaster is of no benefit in fixing ammonia, (according to Liebig,) in stables, unless mixed with four hundred times its weight of water. Farmers will never use plaster in a soluble condition, and there is no need of it, as I will soon show. "We have seen the fumes of a manure heap speedily arrested by sprinkling on half an ounce of strong sulphuric acid diluted with a pailful of water. Who will tell us of a better way?" Study Liebig's works thoroughly; put the practical part into active operation, and let the theoretical part alone; and work, think and study by the light of practical science, and you will have the right way. A part of plaster is sulphuric acid, and I should think it would have the same effect as when applied alone. Scatter plaster upon your stable floors, and from the great amount of urine voided by the cattle, much of the plaster will be dissolved, and after the manure is put upon the fields the plaster is being dissolved as wanted by every rain. It is only on the decomposition of nitrogen that ammonia is formed, and if plaster is mixed with manure, the sulphuric acid combines with the ammonia, and the lime with the carbonic acid, forming compounds which are not volatile, and consequently destitute of all smell.

Experiments by Dr. VOELCKER, upon a heap of manure, showed that the ammonia remained undiminished from November 3d to April 30th, while during the hot summer months all the most valuable matter had undergone diminution.

Take courage, brother farmers, put plaster with the manure, and when you have applied it to the land, the plaster will prove a faithful servant, as the rain descends. Liebig states that "the evident influence of gypsum upon the growth of grasses, the striking fertility and luxuriance of a meadow upon which it is strewed, depends only upon its fixing in the soil the ammonia of the atmosphere, which would otherwise be volatilized with the water which evaporates." Here is a wise provision of Nature; as the water evaporates it dissolves a portion of the plaster which retains the ammonia for the plant.

"In order to form a conception of the effect of gypsum, it may be sufficient to remark that 110 lbs. of gypsum fixes as much ammonia in the soil as 6880 lbs. of horse urine would yield to it. Water is absolutely necessary to effect the decomposition of the gypsum, on account of its difficult solubility, (one part of gypsum requires 400 parts of water for solution,) and also to assist in the absorption of the sulphate of ammonia by plants; hence it happens that the influence of gypsum is not observable on dry fields and meadows. The

decomposition of gypsum by carbonate of ammonia does not take place instantaneously; on the contrary, it proceeds very gradually, and this explains why the action of the gypsum lasts for several years."

All this talk, I understand to be about gypsum when applied to land, and there you have water enough, except in dry seasons, and if convenient in these seasons, you can irrigate, and perhaps it will pay.

Put plaster upon your stables, and a portion of it will be dissolved, enough for all practical purposes, because, as I have shown, only a small portion of ammonia is set free, and only a small amount of dissolved plaster is required. Mix plaster with night soil, and the scent will be retained; then add some pure lime, and the odor will be thrown out again. "Put fresh urine and plaster into a cask; in the course of a few days there will be on the surface of the urine a thin, ice-like pellicle; this, when taken off and tested by an acid, will be found to be carbonate of lime, showing plainly that some of the plaster has been decomposed; the quick lime, in its eagerness for carbonic acid, rises to the surface, and when it has obtained a certain thickness, it breaks and falls to the bottom, and doubtless the acid that was separated from the lime combines with the ammonia, forming an impure sulphate of ammonia."

Sulphuric acid is worth about six cents per pound. The same in plaster a trifle over one cent. The acid in copperas at two cents a pound, would cost over six cents. Now farmers, which of these will you use? I shall use the plaster. The water in animal excrement is sufficient to dissolve a portion of the plaster, so that it will retain nearly all of the ammonia, but when the manure is applied to the land, there will be need of more water to assist the plants to take up ammonia. This is done by the water in the ground and by rains. All the gypsum gradually disappears, but its action upon the carbonate of ammonia continues as long as a trace of it exists.

Lyndeboro', N. H., 1862. L. G. B.

For the New England Farmer.

NOTES FROM THE MONOMACK.

BY SAGGAHEW.

STATISTICS OF THE AGRICULTURE OF MASSACHUSETTS.

The following table shows the number of farms, &c., in this State, as exhibited by the official returns of the United States census for 1860:

Farms	35,519
Farmers	45,522
Farm laborers	18,039
Improved land, acres	2,213,315
Unimproved land, do	1,192,296
Value of farms	$122,645,221
Value of farm implements and machinery	$3,804,355
Horses	47,679
Asses and mules	51
Milch cows	134,475
Working oxen	37,989
Other cattle	96,563
Sheep	113,279
Swine	74,843
Value of live stock	$12,525,200
Wheat, bushels	120,294
Rye, do	359,610
Indian corn, do	2,084,040
Oats, do	1,148,081
Tobacco, pounds	3,221,941
Wool, do	573,789
Peas and beans, bushels	43,206
Irish potatoes, do	3,362,391
Sweet potatoes, do	999
Barley, do	133,488
Buckwheat, do	113,408
Value of orchard products	$928,140
Wine, gallons	21,854
Produce market gardens	$1,383,176
Butter, pounds	8,168,980
Cheese, do	5,509,614
Hay, tons	668,628
Clover seed, bushels	453
Grass seed, do	4,894
Hops, pounds	111,309
Flax, do	175
Flax seed, bushels	7
Maple sugar, pounds	1,011,569
Maple molasses, gallons	15,425
Beeswax, pounds	3,457
Honey, do	59,420
Value of slaughtered animals	$3,046,861

From the above table the following table of averages is prepared:

Average number of acres of land per farm	96
" " " improved land per farm	60
" " " unimproved land per farm	35
Average value of farms	$3,453
Average value of farm implements and machinery per farm	$107,10
Average value of live stock per farm	$355,45
Yearly value per acre of orchard products (fruit)	$4,58
" " " farm " " "	$26,13

As may be seen from the annual report of the Secretary of the Massachusetts Board of Agriculture for 1861, (for which these, and similar tables, were prepared by the writer,) there is a great discrepancy between the returns of the above census, and the returns of the assessors of the several cities and towns of the same year. And as it is self-evident that the latter must be much nearer the truth, we are led to doubt whether *any* reliance can be safely placed in the former. As a specimen of these wide differences in the two returns, we give the following:

	Assessors, 1860.	*Census*, 1860.	*Difference.*
Yearly produce of hay, tons	702,285	668,628	33,657
Acres of improved land	3,373,458	2,213,315	1,160,143
Acres of unimproved land	996,149	1,192,296	196,147
Males 20 yrs. old and upward	298,830		
Number of horses	90,712	47,679	43,033
" cows	160,982	134,475	26,507
" sheep	115,671	113,279	2,392
" swine	57,241	74,843	17,602

The difference in the returns of hay, horses, cows and sheep alone, by the census marshals and the assessors, (both taken in the same month and year,) amounts to a total of $4,656,844 in the State! Surely, we can have but little confidence in our census figures, if this is a sample of them.

The returns of the assessors of the above year contain much valuable information in relation to agriculture in the State, as the following items will show:

Acres of orcharding of all kinds of fruits	41,812
" " mowed	25,380
Yearly tons of hay in orchards mowed	24,011
Acres of land annually tilled, excluding orcharding tilled	266,370
Acres of upland mowing, excluding orcharding mowed	550,183
" fresh meadow	166,239
" salt marsh	38,543
" pasture land, excluding orcharding pastured	1,344,914
" woodland, excluding pasture land enclosed	976,071
" unimproved land	767,019
" land unimprovable	229,130
" land used for roads	109,940
" land covered with water	198,254
" land (total) from actual survey	4,857,497

It will be remembered by many that our last State Valuation Committee recommended a change in our method of taking the State valuation, which was adopted by the Legislature. One of the feat-

ures of the new plan is the annual publication of the "aggregates" of the valuation of the several cities and towns in the Commonwealth, as returned by the assessors. The first of these interesting documents has recently made its appearance, and from it we copy the following valuable table:

COUNTIES.	Total number of Polls.	Total Tax on Polls.	Total Value of Personal Estate.	Total Value of Real Estate.	Total Tax for State, County, City and Town purposes, including Highway Tax.	Total Valuation, May 1, 1861.	Total number of Dwelling-houses	Total number of Horses.	Total number of Cows.	Total number of Sheep.	Total number of Acres of Land taxed in the County.
Barnstable	8,182	$12,413 40	$6,567,180	$6,692,928	$122,286 72	$13,312,271*	6,008	2,184	3,591	1,012	157,356
Berkshire	12,734	20,689 05	7,800,004	16,376,939	158,782 15	28,186,053	8,456	7,223	20,379	42,435	545,102
Bristol	19,044	33,274 03	30,760,226	33,408,465	534,372 01	64,558,631	13,632	6,128	9,646	3,014	318,358
Dukes	1,160	1,740 00	1,327,257	1,511,199	17,768 01	2,844,430	822	363	759	9,581	45,528
Essex	37,679	59,433 66	31,640,991	52,905,124	795,746 13	84,546,115	22,883	7,845	1,353	1,709	295,405
Franklin	8,124	13,967 08	3,487,033	8,877,302	127,460 01	12,364,335	5,754	4,578	5,513	6,241	346,502
Hampden	12,302	23,130 73	8,774,516	18,384,446	226,946 58	27,128,962	8,856	5,289	6,201	6,264	329,973
Hampshire	8,945	14,960 79	6,015,647	12,002,402	153,660 22	18,018,049	6,201	5,133	10,992	19,564	467,013
Middlesex	50,925	79,746 38	88,922,906	101,496,316	1,217,095 00	140,419,221	32,785	15,130	24,507	1,170	487,018
Nantucket	1,403	2,104 50	2,400,448	791,713	64,638 56	3,201,161	627	212	460	1,290	11,092
Norfolk	26,027	40,785 90	29,768,708	55,278,182	705,406 34	85,040,880	17,821	8,455	9,543	244	246,311
Plymouth	16,142	27,619 44	9,358,364	19,270,315	232,751 88	28,628,679	10,776	5,823	8,429	3,548	350,125
Suffolk	58,237	57,539 60	109,112,836	175,036,322	2,500,575 95	284,149,158	20,115	5,067	671	4	8,306
Worcester	39,571	66,009 29	23,303,293	49,990,089	672,623 72	73,352,482	23,533	14,974	36,293	7,577	910,579
Aggregates	290,588	$455,333 93	$309,397,669	$559,087,749	$7,900,501 28	$801,547,563	178,194	88,309	140,000	51,110	4,962,035

* The sum of $62,705 assessed upon non-residents in the town of Harwich, included in this aggregate, does not appear in either of the columns of Personal or Real Estate values.

MARAUDING CATTLE.—Cattle may be educated into almost anything.

A quiet cow may be converted into a skilful jumper in a single season. The first requisite for such training is short feed, resulting from overstocking. The second is low fences; and the third, tempting crops of corn beyond these low fences. In the spring grass is usually good, and corn and other crops are small and uninviting; but during some midsummer periods, when pasture is dried up, the process often begins. One or two rails are accidentally knocked or blown from the fence; the quiet and orderly animals stretch their heads over to reach a morsel of the tall grass; they throw down accidentally two or three more rails, and finally leap over. The owner drives them out as soon as they have learned the difference between delicious food on one side and short commons on the other, and puts up a rail. They have already learned to leap a little, and the next day they improve and go a rail higher. Another rail is added, and the process is repeated until they become quite expert.

It is now a very busy season, but the farmer should not neglect his fences; if rails are thrown down, replace them before cattle find it out; keep fences high at all times; and if the animals should actually break through, add rails enough to make the barrier entirely impregnable at once.

SUMMER CHICKENS.

Those who bring out chickens in April, or earlier, do it at the risk of making considerable loss, as that month is usually a cold, wet and windy one. When successful, however, they bring a high price, sometimes when marketed in July, as high as fifty cents per pound. This has prompted many to get broods as early as the last of March, and the first of April.

We copy the following article from the *London Cottage Gardener*, and think it worthy of attention by those who do not care to send chickens to market, but only to provide themselves with an annual stock.

There is an old proverb in some parts of the country that summer chickens never thrive. It runs thus in parts of Hampshire:

> "Chicks that are hatched when there's making of hay,
> Will never grow up, but pine away."

All those who wish to rear poultry without much trouble choose the month of May for doing so. Sometimes a hen deserts a few days before hatching; sometimes she dies upon it. If we listen to the above tradition there is no remedy. But we believe there is, and a simple one; set more eggs, and be not deterred by fables. We go on hatching till August, and we are successful. The London market is only supplied by this process with the poultry for which it is so justly celebrated. Fowls of the same age can be had all the year round because the work of hatching never ceases. If we were to tell such of our readers as require instruction on the subject, that any expensive or very troublesome process was necessary, they might, perhaps, say, that of two troubles, they thought waiting was the less. But it is not so; and we confess, it seems to us that the idea can only be supported by that undeniable argument, "I do not know how it is, but I know that it is so."

Another large class of poultry breeders say they do not believe in the saying; but June is too late for chickens. Well, if you say it is too late, we say—prove it. The nights are shorter in June than in May; the weather is warmer. Nearer to the winter you say; but you have four months to the end of October, all good, growing, genial weather, and at that age, your chickens will stand anything. They are three weeks or a month later, that is all. It may be said there must be some foundation for the proverb; the sun is too hot and scorching, and if chickens are entirely exposed to it, they will die. Put the rip, with the

hen into it, in a shady place, but near the sun. As in April you gladly turn it to the sun wherever you can find it, so in June turn it away. Let it be near covert for the chickens, shrubs, artichokes, pears, anything that produces shade and harbors insects. You will find your chickens live there a great part of the day, and always when the sun is most powerful. They find there the insects that have deserted the parched grass. Let them be well and frequently supplied with fresh and cool water. If you can do it, or have it done, you will find a great advantage in having a few pails of water scattered every evening on the ground they use in the day. It freshens it, and keeps it cool. To sum up; give your chickens shade, clean and cool water, with a run affording them covert; and we promise you, you shall say and prove that the prejudice against June chickens is a popular error.

For the New England Farmer.

RETROSPECTIVE NOTES.

"STEEPING BARLEY BEFORE SOWING."—The little item with this heading, on page 155 of the *Farmer* for April, and in the weekly issue of March 15th, may, it seems not improbable, lead some beginner in farming, or some one of limited experience, into expenditures of time, labor, and money, for which the returns will be very trifling indeed, and far short of the expectations which the last sentence of this quoted item would be likely to excite in farmers of large credulity and small experience. In this last sentence it is assrted that a writer in the *Homestead* thinks that the benefit or increase of crop, from steeping seed barley, before sowing, in a solution of copperas or blue vitriol, and then rolling it in plaster, would be as great as that which might be obtained from ten extra loads of manure per acre.

Seeing, then, that this item, quoted from the *Homestead*, is liable to mislead young and inexperienced farmers, and that it is objectionable for other reasons, it seems proper that some one of the members of the *New England Farmer Mutual Improvement Club* should utter a word of caution in regard to it, for the benefit of the younger and less experienced members. The caution needed, in this case, is just such a one as an old farmer, who had given up the care of his farm to his son, or to a tenant, might be supposed to address to either of these, if his opinion were asked in relation to it, and an inclination manifested to believe the statement made, and to treat some seed barley, or other seed, in accordance with the statement. Such a one, in such circumstances, would be likely to say that the recommendation in the *Homestead* was of little value, inasmuch as the amount of the copperas, or blue vitriol to be used, was not mentioned, nor the strength of the solution in which the seed was to be steeped. Another defect in this recommendation is, that the length of time during which the seed must be steeped, in order to produce the same effect as ten extra loads of manure, is not mentioned. "Be assured," he would say, "that if you are to get as much increase of crop from steeping your seed in a solution of copperas or blue vitriol, as you would get from ten extra loads of manure, you will have to be *wondrously particular* about the *exact* number of ounces or pounds of these salts to be put into your solution, as well as about the exact length of time during which the seed must remain in this marvel-working solution." Until the writer of the article referred to informs you and the public as to these points, so essential to success in making such an experiment, I would advise you to regard that writer's recommendation as one of the many inexact and untested opinions, whims, notions, or guesses as to what might be in certain circumstances, which are to be met with occasionally, not merely in common conversation, but also in print. I would give more for one experiment conducted with care and exactness, and accurately reported, than for all the loose, inexact observations, whims, suppositions, guesses and such like, which I might hear and read from June to January.

On page 183 of the April number the reader will find another item—"Soaking of Seeds." As to steeping seed in general, before sowing, it may be said that, except in the case of such seeds as those of the carrot and beet, there are scarcely any, for *field* crops, which can be steeped long enough to forward germination, *without some risk*. For sowing in *gardens*, seeds may be steeped long enough to forward germination and the growth of plants several days, without much risk; but in the case of the seed of *field crops*, there is always a risk from rains or something else happening to prevent the sowing of the seed at the proper stage, or without delay. And if there should be a delay of several days, the germinating process must either go on, and go too far, or must be arrested for want of moisture, in which last case the vitality of the seed—of some seeds at least—would almost certainly be destroyed. Then, again, in the case of a drouth, and the ground becoming exceedingly dry before the seed shall have been steeped long enough, there is a great risk—almost a certainty—that seed just commencing to sprout shall die, if put into ground so dry that it can find no moisture.

Upon the whole, then, it may be said, that the soaking of seeds for field crops is a process which requires the exercise of much good judgment, and a knowledge of the laws or conditions of germination, as without these, there is fully *more likelihood of damage* than of *advantage* from the process. Nevertheless, there is an advantage which may be secured by the adoption of this process of soaking seeds, especially when the steep is one which contains some highly fertilizing ingredients, as that mentioned on page 183 of the April number, in an item quoted from the *Michigan Farmer*. The celebrated German agricultural chemist, Liebig, in his "Letters on Modern Agriculture," states that no Chinese farmer ever sows or plants a seed before it has been soaked in some liquid manure, or in a solution of some manurial matter in water, and has begun to germinate; and that experience has taught the Chinese farmers that this operation tends not only to promote the more rapid and vigorous growth and development of plants, but also to protect the seed from the ravages of worms and insects.

A few items of our own experience in soaking seeds before sowing, may be of service, either as guidance, or as warnings, and with these we will leave this useful, but somewhat risky operation, to the consideration and the cautious trials of our

brother-readers of the *N. E. Farmer*. As to seeds that germinate slowly, such as the carrot and the beet, we have usually mixed them with sand or sandy loam, stirring them well together, keeping the mixture moist, and on the south side of the house, between a week and two weeks, and taking the box into the kitchen, or protecting it when the nights threatened to be cold. When carrot seed is prepared in this way, the mixture moistened with a solution of hen manure, and some gypsum added just before sowing, we get the carrots to start before the weeds, and so avoid one of the greatest troubles in raising this crop. If ever we should raise tobacco, we would treat this slow-sprouting seed in the same way, keeping it in moist sand, and in a warm place, two weeks before sowing it. Our trials in soaking corn have sometimes succeeded in giving the plants an earlier and more vigorous start; and in one instance, when the ground became exceedingly dry before the whole of the seed corn could be sprouted, the young sprouts died in the dry ground, and a second planting became necessary. MORE ANON.

CURIOUS PHENOMENON.

"How is it that you raise such large and nice onions?" I asked of an Iowa farmer, as I was sitting at table with him, and observing some on the table.

"Well," said he, "we sprout the seed with boiling water, and then plant it early and in good ground."

"Sprout the seed in boiling water?" I exclaimed, inquiringly. "What do you mean, sir, by that? Won't boiling water kill the seed?"

"Not at all," he replied; "but it will sprout them, in one minute's time."

"It will? It looks incredible," I replied, with surprise.

"Well, you try it," he replied, "when the time comes to plant, and you'll find it just as I tell you."

And, sure enough, when spring came, and my neighbor was planting his onion seed, being present, I said:

"Jewell, last winter, there was a man in Iowa told me that to pour boiling water on black onion seed would sprout it in one minute. Suppose you try it?"

"Very well," said he. And taking the teakettle from the stove, he poured the boiling water on the seed, which he had in a saucer. Looking closely at it for a moment, he exclaimed, "You have told rightly. Only look there."

I looked, and behold, the little sprouts about as large as horse hairs were shooting out of the opened ends of the seeds! He did not retain the water on the seed above three seconds, and in less than one-half minute after it was poured off, the sprouts were projecting from the seeds.

My Iowa friend assured me that this process would advance the growth of the onion two or three weeks beyond the ordinary method of planting without sprouting.

HOW HEALTH BRIGHTENS THINGS.—God has so knit the mind and body together, that they act and re-act upon each other. Who has not felt that the state of health gives a coloring to everything that happens to him? One man, whose health is depressed, sees his own fireside, that used to burn so cheerily, only colored with gloom and sadness. Another, of a bright and joyous mind, in the full vigor of health, will go forth, and the very desert to that man's eye will rejoice, and the very wilderness to his view will blossom as the rose, and the saddest strains in nature will sound to him the most joyous and brilliant. A sufferer goes out and looks on nature, and its roses all become thorns, its myrtles all look like briars, and the sweetest minstrelsy of the grove and forest sounds to him like a wild wailing minor running through all the sounds of nature.

For the New England Farmer.

HOW SHALL OUR SONS

BE BEST EDUCATED FOR THE OCCUPATION OF THE FARMER?

This is a question of deepest interest to the State, and to every individual in it; and well may it engross the attention of its Executive head. I do not claim to be much of a farmer myself, for I never felt that I had *the body for the work of a farm*—for to farm advantageously, demands energetic and continued labor. The farmer must rise with the lark—"he must keep his eyes right on, and his eye-lids right forward"—he must be intent on his business, and let other callings alone. Not that he should not understand enough of others, to guard against being imposed upon, but his ambition should ever be, to be an intelligent and successful farmer. To be this, he must know the nature of the soil he cultivates, and the uses to be made of the crops he grows. He must *soon learn* how to make both ends meet. Farming, good farming, is not a fancy business; but it should be entered upon as the *means of living*. The best farmers I have ever known, are those who have sprung up and matured on the farm—under the guidance of fathers, who were not ashamed to work. One of the greatest embarrassments to any pursuit, is feeling above one's business. The farmer-boy should ever feel that he is as good as any other, and no better, and never should feel above his business. He should never be ashamed of the dress that is best suited to his employment, but should stand up straight in it, and let others perceive that he feels himself equal to the best, and in no manner degraded by his occupation. Shall this kind of instruction be acquired on the farm, or at the school? I say on the farm. I would as soon think of making a boy a skilful navigator, without his ever going upon the water, as to make him a good farmer, without his *working upon the land*.

I have thought the Reform School at Westboro' might advantageously be converted into a school for instruction in agriculture. Here are *three hundred boys*, whose services can be controlled for a period of *seven years*, until they arrive at the age of twenty-one. Here is abundance of land, centrally situated, and if it be possible by school instruction to teach boys to be farmers, this, with suitable guides to their labor, and a suitable plan of operation, would seem to be the plan. The same may be said of the schools of reform, in our cities and counties. By such a plan of management, these institutions, instead of being a tax

and burden upon the community, would become a blessing.

Will it be said that boys who are fit subjects for such institutions, are less capable of learning than others? Far otherwise is the fact. Their physical ability is as great or greater, than the same number of any other class of boys; all they need is intelligent direction to their labor, and strict discipline. Let it be understood that they go there to serve *an apprenticeship at farming*, and not to do penance for offences against society; and let there be intelligent supervisors of the State farms, and they will not only become instructed, but they will soon earn their own support.

So. Danvers, 1862. J. W. PROCTOR.

THE DAM AT NORTH BILLERICA.

With the brief remarks which follow, we shall close what we have to say, at present, in regard to this *legalized* oppression. We believe its supporters will live to see the day when they will have painful remembrances of their efforts to destroy the property of their fellow-citizens, for the sake of a little ungodly gain, and crush their best endeavors to obtain an honest and comfortable support. We do not hesitate to denounce it as a wicked oppression, because it nullifies and destroys the great rule of right left us by the Master,—that "Whatsoever ye would that men should do to you, do ye even so to them." It is no justification to them to do wrong, because it is legalized by a Legislature whose judgment was corrupted by untimely and unfair representations. It is contended that slavery is legalized, and that therefore slavery is right; yet no man with a quick conscience would absolve himself from the crime of slavery, if all the world beside himself should justify it. But we proceed with the history.

When the new dam, erected by Mr. Osgood, across Concord river, at North Billerica, was condemned under the Nuisance Act, by the Inferior Court of Sessions, Mr. Osgood "appealed from the judgment of this Court to the next Court of Assizes, and General Jail delivery." This Court was the Superior Court of Judicature. The appeal of Mr. Osgood was not tried in this Court. A new method was adopted for settling the controversy between the mill-owners and land-owners. A committee of three was appointed by the Court "to repair to Billerica as soon as conveniently may be, in order to view the mills and mill dam of said Christopher Osgood, in said town, to consider what method may be necessary or convenient to ease the said river of any obstructions and incumbrances, so as that there may be a free and sufficient passage or course for the fish up and down the said river, in the proper season thereof." This committee was ordered to report their doings to the Court which appointed it.

The efforts of the meadow-owners to obtain redress for the overflowing of their lands by this dam were successful. The first dam was removed by the authority of the Province. They were now engaged in new efforts to obtain a remedy for a grievance by which they were deprived of the natural benefits of the habits of a valuable fish. Of these benefits they were deprived by the new dam erected "without authority," where the old one stood at Billerica. These efforts were successful, as will presently appear.

This committee reported that they were of opinion "that forty feet or thereabouts of the dam of the said Christopher Osgood be taken down from top to bottom, by or before the thirteenth day of March next, and to be left down or open until the thirteenth day of May next ensuing, and so annually from year to year, that the fish may freely go up and down."

When the Court heard this report, the Sheriff of the county was ordered to attend the committee to Billerica, "in order to inquire and see whether said Christopher Osgood has eased Concord river of the obstructions and incumbrances, which he is complained of by the appellees, and whether he has performed what was proposed" by the last committee.

This Sheriff's committee immediately attended to their duty, and soon reported that Mr. Osgood had pulled down his dam, as proposed by the first committee.

The Court took these reports into consideration, and after "a full hearing of both parties," accepted them. Apparently, the difficulty was settled, the dam was required to be kept down two months in the year, and no more complaints against it would have been preferred, had Mr. Osgood acted in good faith. He, however, neglected the very next year to comply with the recommendation of the committee of investigation. The next spring two citizens of Concord visited Billerica and soon made the following affidavit before a Justice of the Peace: "They being at Mr. Christopher Osgood's mill dam in Billerica, they saw his saw mill going, and observed that his mill dam was entirely up and standing from end to end; and that therefore they asked said Christopher Osgood why part of his mill dam was not pulled down, that so the fish might have a free passage up the river according to the committee's report; and said Osgood answered that it was not pulled down, neither should it be this year, for he was not obliged to do it."

The meadow owners immediately commenced new efforts for the establishment of their rights. The appeal of Mr. Osgood from the judgment of the Inferior Court was not tried in the Superior Court, but the question was settled in another manner, as has been indicated. This settlement was not regarded by Mr. Osgood. The land owners endeavored to have this appeal tried in the Superior Court of Judicature. This effort was

unavailing on account of a "law usage or custom." Mr. Osgood, however, seeing the determination of the men whom he was injuring, finally complied with the report of the committee sent out by the Superior Court, and kept his dam open two months in the spring. Soon after a general law of the Province was passed, requiring owners of mills to keep their dams in a condition to allow fish to run up and down freely in the spring. After the passage of this act, with the penalty for its violation, no further complaint was made against this dam until it passed into the hands of the Middlesex Canal Corporation, in 1794.

ON THE CIRCULATION OF SAP.

BY MR. CHARLES REESE, BALTIMORE, MD.

What is the true theory of the circulation of the sap in exogenous trees and plants?

There is scarcely a subject in the whole range of botanical science upon which there is such a diversity of opinion as upon this. All writers admit that it is of great importance, and yet no two precisely agree in the conclusions drawn from experiments upon it; and after a patient and careful examination of the best authors, we are left as much in the dark as ever.

The most popular theory of the day, and one which we find advocated by many wise and learned men, is that, at the fall of the leaf, the sap in the branches and trunk of the plant gradually descends to the roots, and lodges there until the return of spring, when, by some unexplained power, it is forced upward, filling all the branches, and causing the leaves to put forth again, and the tree to grow. A majority of men, influenced mainly by impressions received in childhood, and evidently without reflecting much upon the subject, believe this to be the truth, and rest there, without wishing to pursue the subject any further; whilst others, seeing great objections to this theory, have discarded it, and set forth a new one, with this as the main feature, viz.: That all the sap remaining in the tree in the autumn becomes changed into wood, and is thus finally disposed of; consequently, that which rises in the following spring is a new supply. In the "Encyclopedia Britannica"—article Botany, page 111—we find "Walker, Burnett, and others made incisions into the bark and wood of trees in spring and summer, and marked the points where the sap made its appearance. In this way, they endeavored to trace the course of the fluids in the stem. Walker concludes from his experiments *that the spring sap begins to flow at the root*, that it ascends slowly upwards, and bleeds successively as it ascends to the very extremity of the tree."

On the other hand, in "Carpenter's Vegetable Physiology," page 148, we have: "If a vine be growing on the outside of a hot-house, and a single shoot be trained within, in the midst of winter, the warmth to which the latter is exposed will cause its buds to swell and unfold themselves; whilst those on the outside are quite inactive. A demand for fluid will thus be occasioned along this particular branch; and this will be supplied by that existing in the vessels below. When these are emptied, they will be again supplied by the parts below them; and thus the motion will be propagated to that division of the roots whose fibres are connected with those of the vegetating branch. These will absorb fluid for its support, whilst all the rest are completely at rest. In the spring of the year, when the cheerful rays of the sun call the whole of the buds into activity, the whole of the roots are similarly affected; *and that the sap begins to move in the upper branches before it commences ascending in the trunk* has been shown by experiment—notches having been cut at intervals, by which the period of its flow could be ascertained in each part."

When doctors disagree, &c., &c. Here we have testimony precisely opposite. Of course, both are right in their own estimation.

In the hope of finding the truth amongst the intelligent contributors who adorn your pages, I have been induced to make the inquiry at the head of this article. Will you give it a spare corner, ann let us hear from them on the subject?

My attention was first called to it by witnessing the operation of striking cuttings of the vine, cut from the parent stem long after the sap had all "descended to the roots," or had been "changed into wood." As soon as the sun poured his flood of golden light upon them, and the little brown buds felt his genial warmth, they began to swell and give signs of a new life. In a short time, a thin, clear fluid began to trickle down their sides, and form a rim around the base of each, from which, in a few days more, a dozen white rootlets peeped forth, and pushed down into the earth, as if to bring up hidden treasures; and almost immediately the buds broke and came out into full leaf. Here was a new revelation to me, and I began to question my new teachers:

Whence had you this power? Your life was drawn from you last fall, and you have no great reservoir at your base, with powerful engines to send the crystal fluid through your veins at the approach of spring, and yet you grow almost as if still attached to the parent vine. Calling to mind the words of the poet about "sermons in stones, and books in the running brooks," &c., I sat down to reflect awhile. Surely, said I, here is food for thought. The fall of an apple led Sir Isaac Newton to the discovery of the laws of gravitation; and why may not as simple a physiological fact as the striking of a cutting lead to the true theory of the circulation of the sap?

From the teachings of the wisest and best man the world has ever known, I have been led to perceive that all things in the material world are the effects of spiritual causes. Wherever there is a germ of life, or an organization receptive of life, there is into that, through the medium of the light and heat of the outward sun, an influx from the Creator, a constant effort to bring forth all things good and beautiful; and the more I investigate, the more clearly I perceive this truth, that in all the works of Infinite Wisdom there are certain generals, composed of particulars, in each of which, although they may be the smallest into which microscopical science has yet been able to divide them, there are a thousand particulars, each as full and perfect in its character as the first. How true this is, every department of the vegetable kingdom testifies. But most clearly of all it is exemplified in the vine, that beautiful symbol of Divine truth. In each little rootlet, every tiny

seed, and in each delicate bud, there is a germ, which, under certain circumstances, will produce a full and perfect vine. Now, it appears to me this could not be the case, unless there was, besides the general circulation of the sap in the whole plant, a particular circulation in each of these parts belonging to it individually, and acting independently, although forming a part of the whole general circulation. In each of these separate individual circulations or systems dwells all the fulness of the vine. Each power, function, property and characteristic of the parent is there; and if, by some catastrophe, the entire vine, with the exception of one single bud, should be destroyed, from that a vine in every respect identical with the other could be raised.

The strawberry plant is another beautiful illustration of this principle. In the bud which slowly creeps out of the bosom of the parent, and grows until its own weight bends the long and slender stem to the earth, is the delicate framework of a new life. As soon as the eager rootslets establish a telegraphic communication with the soil, the new system is complete. The placenta is severed, and a new creation stands before us. But why multiply instances familiar to all. If this principle of separate circulation in the different parts is established, will it not lead us to a truer knowledge of the general system?

Now, I do not pretend to say that I have made one step in advance towards the attainment of that object; nor do I think I ever shall; but what I have to say may set others to thinking, and in the end truth may be evolved.

All plants, whether good and useful, or noxious and hurtful, are in the constant effort to reproduce their species, and, as this is their legitimate business in life, every faculty is directed to that object. Every bud, within which is the germ of a new life, is an especial object of maternal care and solicitude. Safely lodged at the base of the petiole, and securely wrapped in its tiny cradle, it is rocked to sleep by the gentle breezes, and fed every morning with the sparkling dewdrop. The purest and best portions of the elaborated sap, fresh from the laboratory of the leaf, is devoted to it, invigorating and strengthening every part, and each day adding just what is needed for its support.

At the close of the year, the change in the color, and finally the fall of the leaf, announces that its task has been completed; the organization of the new life is full and perfect, and the happy parent goes to her rest to prepare for new offspring with the new year.

Here is the corner-stone and key to the whole superstructure. Every bud so formed becomes the centre of a new system, and whether cut from the parent stem and planted alone, or conjoined to another vine, or left where it originally grew, has within itself the capacity to grow and impart to its offspring every peculiarity of form and color which characterized the parent vine. Now, let us inquire, if the sap is "all changed into wood" at the fall of the leaf, or is "evaporated," or "descends to the roots," what is this mysterious substance upon which the light and heat of the sun in spring has such an influence?

I have not been able to satisfy my mind fully upon this point; but so far as my experiments have gone, they have furnished me with conclusive proof that the sap does not descend to the roots in the autumn, in greater quantities than it does during the growing season; but on the contrary, as soon as the fall of the leaf indicates that the new buds are perfected, the general circulation of the plant becomes more and more obstructed by congregations of albumen, starch, sugar, &c., in the alburnum and cellular tissues of the medullary rays, the spiral canals in the medullary sheath, and pith of the newly formed wood, and finally becomes *congcaled* by the action of frost, so as to appear entirely motionless. This takes place first in the extremities, then in the lower parts of the branches, and sometimes throughout the trunk, when the plant may be said to pass into a state corresponding to that which plants of another kind find so necessary once in every twenty-four hours. During this period, cut a vine where you please, and you can not make it part with its sap. The duration of this sleep varies, of course, with different plants; with some, not more than one month elapses before they are awakened; with others, two, three, six months, regulated by the degrees of cold to which they are subjected, and the peculiar nature of the plant.

Now, as I have repeatedly observed—and I find my experiments confirmed by Carpenter and others—as the sap in the young and tender stems on the extremities was the first to become congealed and solid (if I may use the term) in the autumn, so it was the first to become liquified and active again in the spring. Now commences what I have called the particular circulation in each of the buds or new systems. The warm rays of the sun, acting upon the cellular tissue of the young bark around the bud, dissolve the congealed fluids, and they pass downwards, enter the medullary rays to the spiral vessels in the medullary sheath, through which they ascend, and flow outwards through the medullary rays again to the bark, thus forming a complete circle. Whilst this is going on, the congealed mass in the alburnum also feels the influence of the sun's rays, and becoming liquified, presses upon the thickened mass in the cells next below them, and they in their turn upon those adjoining them, and so on until a communication is opened with the roots, when instantly a new actor steps upon the stage, a stranger whom the schoolmen call *Endosmose*. The entire upper cells of the plant being now filled to repletion with thick, gummy matter, the general circulation goes on very slowly at first, until by means of this new agent, the delicate walls of the root-cells are opened, and in a thousand streams, the rains and melted snows of the past winter, holding in solution mineral ingredients necessary for the support of the plant, rush into the alburnum, converting starch into sugar, tempering, absorbing, and dispersing the obstructions in the sap-cells, and producing all over the plant that abundant flow which has no doubt given birth to the theory of the "ascent of the sap from the roots." Sometimes this goes on for weeks and months before the opening of the leaf and flower buds.

I have known these fluids to be circulating freely in a grape vine in February, and yet the leaves and blossoms not unfold before May. Well, now, suppose there was no descent of sap through the cellular tissues of the bark to the roots, no deposit of cambium on the exterior of the alburnum, what amount of sap, think you, would rise in two

months at the ordinary speed of ascension? Why, more than the whole vine would contain if it were composed entirely of sap.

It is during this period that new roots are formed very rapidly. The separation and distribution of the albuminous and starchy matters, caused by the endosmotic entrance of new fluids from the fruitful earth, furnish abundant material for these; and the delicate fibres now push out in great numbers, and preparations go on throughout the whole plant for the new work before it.

This is the reason why late fall or early spring planting of fruit trees is more successful than summer planting. As soon as the leaves appear, the whole energies of the plant are directed as before—first to the young and tender buds, next to the formation of new wood and roots, and lastly to the development of the luscious fruits. The circulation of the sap now goes on regularly and orderly, the general system supplying from its inexhaustible fountains support to athousand particular systems till the close of the season.

Now, sir, there may be errors here mixed up with some truth. To me, at least, it appears to be truth; but as we cannot trust to appearances I wish to have it tried in the great crucible of practice, by careful experiment. — *Gardener's Monthly.*

WASH FOR HARNESSES.

Take Neat's Foot Oil, and Ivory, or Patent Black—the latter well pulverized, or to be made so before using. Mix thoroughly—adding the black until the oil is well colored, or quite black. In cool weather the oil should be warmed somewhat before mixing. With a sponge apply a light coat of the mixture—only what the leather will readily absorb, unless the harness is dry—which will be in from two hours, to a half or a whole day, depending upon the weather and previous condition of the leather—wash thoroughly with soap suds. In making the suds, use *good Castile soap and cold rain water*—(warm water should never be used on harness leather.) Apply the sponge. Rub off with buckskin. This will give the harness a nice, glossy surface, and the leather will retain a good color, and continue pliable for months. If it becomes soiled with mud or sweat, an application of soap and water, as above directed, (without oiling,) will be sufficient to give it a bright appearance.

Two applications of this oil and black mixture a year (or once every six months,) will be sufficient to keep harness, as ordinarily used, in good order. It may be necessary for livery men, and others who use harness constantly, to apply the oil oftener —but in most cases two oilings a year, and washing with suds when soiled, will keep a harness in good trim for sight and service. This process will pay a large dividend in extra service and durability, to say nothing of improved appearance. Alderman Baker assures us that the same, or a similar application is just the thing for carriage tops which are made of *top leather.* The only difference in treatment, that less oil should be used, or rather a lighter coating applied—and it should be washed off *before drying in,* top leather being thin, and much more penetrable than harness. Of course, the mixture would not answer for enamelled leather, of which some carriage tops are constructed.—*Exchange.*

For the New England Farmer.

AMONG THE GREEN MOUNTAINS.

The Weather—"Sugaring"—Farming—Snow Drifts—Thunder Showers—High Water—The Prospect—Sheep and Lambs—How Fed—Management of Stock—Mark of a Good Farmer.

Mr. Editor:—It is Monday, the 5th day of May. The weather is fine, and really spring-like. The three short weeks of sugaring—all we have enjoyed the present season—are past, and about half the amount of sugar usually made, we have stored away as the "sweets" of our labor. Very little has been done yet at farming; the ground is wet and cold, and occasionally spotted with banks of drifted snow. The streams are now quite high, and the Passumpsic meadows, as seen from my window as I write, are well overflowed, the result of warm weather, rains and thunder showers, the latter of which visited us during the afternoon of Saturday last—being the first of the season.

Grass looks well, and the soil which has lain well protected beneath four or five feet of light snow, for nearly five months, without receiving a single draught of the needful by way of rains or showers, till about two weeks ago, is now well watered, and preparing to receive the seed ready and waiting to be bestowed upon it, with a promise of a liberal return.

The spring, previous to the middle of April, was dry and moderate, affording fine weather for sheep, and especially early lambs. I have one lot of 26 ewes, which have raised 38 lambs—24 of them being twins. The sheep are fed on hay, clover and herdsgrass, with an additional daily allowance of eight quarts of a mixture of oats and beans. (A good preventive of ticks.)

I do not allow my sheep, or stock of any kind, to leave the yard until they can make their living on grass; feeding fields during the spring, or even late in the fall, after the late rains begin to soften the sod and soil, is very injurious to the grass-roots, especially if the land is lately seeded; and the stock will do quite as well, safely enclosed in the yard, and fed on good hay—and such should always be reserved for spring feeding—with such additional *etceteras* as may be provided for them.

Stock of all kinds should receive extra care and keeping during the spring months. The "old coat" should be started while at the barn—the earlier, the better—by means of a few roots, or a little grain, in addition to a full allowance of good hay, that they may be all ready to feed and "grow fat," when turned to grass. I am better pleased with the term "spring fat," than "spring poor." The skeleton may be an object of interest, and perhaps profit to the anatomist; but to the agriculturist, or stock-grower, such an object moving within the enclosure of his barn-yard is of little interest, and of less profit. Our creatures should come out in the spring in good condition, exhibiting a healthy and thriving appearance; fleshier, if possible, than when they came to the barn in the fall; it speaks well for the farmer; it is a mark of a successful stock-grower, with whom *farming will pay!*

I. W. Sanborn.

Lyndon, Vt., May, 1862.

Cheap Summer Feed for Hogs.—A correspondent of the *Homestead* gives the following as an economical manner of summer feeding hogs,

practiced by one of his neighbors. We have practiced this plan for many years, and find it an excellent one.

"A few rods of grass-plat convenient to the pen is reserved for this purpose, and is manured by the weekly suds from the wash-room. Commencing at one side of the plat, a large basket of the thick short grass is mowed each morning while the dew is on, and a part given to the swine at each feeding, three times a day. By the time the last portion of the grass is cut, the first is ready to be cut again, and in this way the ground is mowed over many times during the summer, while the grass is kept short, thick, tender and sweet. It keeps the hogs in a healthy growing condition—they are fed with as much as they will eat every day, and but little additional food is required besides the slops from the kitchen.

EXTRACTS AND REPLIES.

HOW WE CAUGHT THE PIG.

A drove of pigs came rooting their way into our village, the other day, and the neighbors generally selected one each, for their solitary pens. The drove had moved on but a short distance, when out jumped one of the new purchases, and threatened to join his late companions. The family, being without their head,—a laborer, gone to his work—were in great trouble. The pig was certainly lost. Drive him into the pen again! He faced square up to the simple neighbors, who tried it, with great obstinacy and sly dodges.

Could we catch him? He was slippery as an eel—would dart through a man's legs like an arrow. Finally, when we had left for a plan but about the boy's last resort—putting salt on his kinky tail—a smart mechanic brought out some corn and a new, strong, cotton clothes line. He made a noose as large as a table, and threw down some corn within it, and then stood off some distance with one end of the line in hand.

Of course, it was a hard job to make the pig see that corn, but when he "put his foot in it," jerk went the cord, and the pig was surprised by the fore leg. He flew around with great activity, while the long line was being drawn in, taking the legs from under some of his captors; but the chase was over and the pig secured.

Moral.—Make a pen about as you would for poultry, for a Brighton pig. If he gets out—get him in again. W. D. B.

Concord, Mass.

A GOOD COW.

As several have given the results of products of cows and growth of calves, I will try my hand at it. My cow dropped her calf Jan. 30, 1861. I commenced saving milk, Feb. 5, 1861; from that time to Feb. 5, 1862, she being farrow, we made 366 lbs. of butter. We used a quart a day in the family. The skim milk was given to the calf two months, then one-half of it one month more, mixed with 75 cts. worth of fine feed made into porridge, and then grass, up to her eyes in clover. Since the calf came to the barn, she has had good hay and three cents' worth of waste of the flour mill, per day. The calf is now 15 months old, girths 5 ft. 3 in., and is 5 ft. 9 in. from roots of horns to rump.

The skim milk from April 3 to Oct. 27 was given to a pig one month old, weighing 14 lbs., and cost $3,00. When dressed, Oct. 27, he weighed 302 lbs. The cow had good feed in summer and about two cents' worth of waste a day, and since she came to the barn, foddering three times a day of corn stocks or hay, and about four cents' worth of waste. JOHN M. MERRILL.

Bristol, N. H., April 29, 1862.

PURE BLOOD POULTRY—BARLEY FOR SHEEP.

Presuming upon the acquaintance formed by a constant perusal of the monthly *Farmer*, I venture to trouble you or your correspondents with a question or two, which I would like answered in the monthly, as I do not see the weekly.

Will Mr. Ives, Buffington, Gates, or some other fowl-fancier, tell me how I can keep pure-blooded fowls year after year, otherwise than by breeding in-and-in, as it is called? Suppose I should procure, of Mr. Gates, eggs from pure blood Leghorn fowls, and upon trial like them, and wish to keep the stock pure; I cannot see how I am to do it, otherwise than by breeding in-and-in. No one else in the vicinity has them, and, of course, I cannot every year be at the trouble of hunting a cock from a distance; and I am told that a few years breeding in-and-in will spoil the stock. My neighbor spoiled his turkeys in that manner.

Is barley injurious to sheep? I can raise barley more easily than other grain, but am told it is not good for sheep. J. C. SHATTUCK.

Marlboro', N. H., 1862.

TWIN LAMBS.

Having seen in the *Boston Journal* an account of 32 lambs raised from 20 ewes, by our enterprising townsman, C. F. Haskell, I wish to correct an error too common among our farmers, that is, that raising twins is profitable.

I cannot in too strong terms condemn the breeding as having a tendency to rapidly run down a flock of sheep. The tax of the ewe to grow two lambs is such as causes double the drain of the system, which proportionally shortens the length of life and consequent usefulness of a flock of sheep, besides the amount of wool grown is proportionally less. Not only so, but the size of sheep is from generation to generation diminished and will eventually run a flock down in this way: twins run into triplets—triplets into quadruples—a case of the latter recently come under my notice in this way: a ram, from a triplet ewe, was put to another triplet ewe, and the result was four lambs or quadruples. Nature discountenances this in cattle, when one of the twins is male and the other female, by rendering the female barren, or in other words a "Free Martin."

I would discourage the practice of saving twins for breeders; in so doing, the British have, together with judicious management, increased the weight of their sheep and cattle since 1630 over one hundred per cent. (See records of Smithfield market—McCulloch's Dictionary of Commerce.)

Stanstead, C. E. GEO. BACHELDER.

ON TANNING SKINS.

I notice the inquiry of "A Reader" for a receipt for tanning skins. I can give him one that I have used to tan wild animals' skins; it is a simple pro-

cess. Take two parts of saltpetre and one of alum; pulverize finely, mix them and sprinkle evenly over the flesh side of the skin; then roll the skin tightly together, and let it remain a few days, according to the weather, then scrape the skin till it is soft and pliable. I have tanned skins in this way so that they would be as soft and white as buckskins. A SUBSCRIBER.

Shelburne, Vt., 1862.

ANOTHER MODE.

"A Reader" wishes to know the mode of tanning coon and fox skins with the fur on. I will give him my mode of operation.

If the skin is green from the body, scrape all the flesh from it, then pulverize equal parts of saltpetre and alum and cover the flesh part of the skin with it: put the flesh in in such a manner as to hold the brine when dissolved, then lay it away in a cool place,—say the cellar—and let it lay four or six days; then cover the flesh part with soft soap, and wash off clean with water. Dry in the shade, roll and pull occasionally while drying; then roll and pull until soft and pliable.

Orange, Vt., 1862. A TANNER.

ASPARAGUS ROOTS—CURRANT CUTTINGS.

Will asparagus plants from a bed ten years old do well to transplant to form a new bed, when younger plants cannot be obtained?

When should cuttings be taken from currants and gooseberries? P.

Orfordville, N. H., May 5.

REMARKS.—We know of no reason why asparagus roots ten years old should not be good for transplanting.

Gooseberry and currant cuttings should be cut before they start their leaves in the spring. They are so hardy, however, that they will probably live even if they have started a little.

STOCKING LAND WITH GRASS.

I have a piece of land which is self-stocked with white clover. I wish to know how it would do to sow timothy seed and roll it in? Should I get as good a crop as if I were to plow and stock anew?

Shelburne, Vt., 1862. A SUBSCRIBER.

WOOL GROWING.—The Secretary of the Vermont State Agricultural Society, Daniel Needham, in his annual report, has the following remarks upon the important subject of wool growing:

The price of wool for the next few years, reasoning from analogy, must be high. The cotton crop will not be planted extensively at the South as it has been in years past; and if the blockade is not raised by the first of April next, in many States it will not be planted at all. Should the rebellion not be suppressed within another year, as very likely it may not be, very little of the cotton crop of 1861 will find its way to market for the next eighteen months; and when we consider that the people must be clothed; that the use of woollen fabrics during the present high price of cotton goods is much more economical; that the million of men in the field wear and destroy, in weight, a third more of clothing than in the peaceful avocations of life; that at the South all the carpets have been cut up into blankets and that very little of the worn out stock will be supplied until peace is restored—from the fact that the South has not even the raw material to replenish with—the whole seceding States not producing as much wool as the State of Ohio alone; it can be seen, that not only during the war, but at its close, when the million of men in the army return to their former employments, discard their military clothing, and dress as they were wont in broadcloth and doeskins, the price of wool must continue above the average price for the last five years. In time of war, the quality of wool is a matter of no small consequence. Vermont has limited herself to the production of the finest wools. But the wool most in demand now, and bringing the highest prices, is a coarser grade. The query may well be made, whether it will not be equally profitable for us to turn our attention to the production of a somewhat coarser staple, and at the same time furnish richer and higher priced mutton for the market.

For the New England Farmer.

THE MORRILL HORSE, DRACO.

This fine stallion, though possessing a world-wide reputation on account of his great speed, is so nearly up to the standard of perfection for a horse of general use, that he deserves a passing notice. He is black, with a slight orange tinge around the muzzle and under the flanks. Stands nearly 16 hands high, and weighs 1175 pounds. He has a powerful muscular system, and a countenance at once indicating intelligence and strong nervous sensibilities, coupled with calmness and docility. His form is perfect, and he has as good feet and limbs as can be given to a horse. In harness he moves with that ease and regularity which mark the real trotter, yet with such commanding strength as to give the rider an idea that he has a horse fit for any emergency. His blood is such as to warrant the belief that the popular reputation he bears as a stock horse is a real one.

Although his speed is not his most desirable excellence, it is a fact that he has trotted a full mile in public, in two minutes and thirty-one seconds, when only seven years old, and he has made a breeding season every year since he was two years old, and has never been trained at a track ten days at a time in his life.

It is not our purpose to write a eulogy on this horse. But seeing him advertised to make a season so near us as Cambridge, and his terms at the low price of $25, we were induced to state these facts, so that our breeders may go and see him, and patronize him. SIGMA.

Framingham, May 6, 1862.

REMARKS.—We have seen *Draco*, and are satisfied that the praise bestowed upon him by our correspondent is none too high. With an exquisite symmetry of body, he has limbs of wonderful muscular power, and in our judgment must possess extraordinary abilities of endurance, as well as speed. Mr. TUCKER, his owner, is an intelligent and upright man, and entitled to the confidence and patronage of the public.

For the New England Farmer.

REPORT ON PLOWS AND PLOWING.

At a meeting of the Concord Farmers' Club last winter, it was voted to invite plow-makers, and others interested, to meet at Concord some day early in spring, and give the farmers of the neighborhood a practical illustration of the good qualities of their plows. A committee was appointed to carry this vote into effect; and the 6th of May was finally fixed upon for the exhibition. On that day a numerous company of persons interested in the sale and use of plows assembled on the farm of Mr. J. Hurd, now leased by Mr. Elijah Wood. A committee of the club, consisting of MINOT PRATT, EDWIN HOSMER, E. E. BIGELOW, L. W. BEAN, HIRAM JONES, J. B. MOORE, ABIEL WHEELER and N. H. WARREN, was appointed to examine and report upon the plows and their performances. This committee have endeavored to perform the task assigned to them in an impartial manner. They felt that their business, for the time was, to know the plow, and its capacities, rather than the plow-maker. They do not claim infallibility of judgment, and may have erred in opinion, but they believe the following statement of the performances of the day is mainly correct.

The committee, in coming to their conclusions, confined their examinations chiefly to two points. The first, and most important, relates to the *quality of the work performed*, or the condition in which the plow leaves the soil; the second, to the amount of force necessary to produce the desired result, on the part of the plowman as well as of the team. In the latter respect there was greater difference than in the quality of the work, though in this there was considerable diversity. They would have the plow-maker give his attention first to the discovery of that form of the implement which will leave the field in the best condition for the use to which it is intended to devote it, and then to such modifications as will reduce the resistance as low as can be, without impairing the work. The trial took place on a rather stiff clayey loam, of as nearly even quality as could be found. There were eight plows tried.

The first tried was exhibited by Mr. G. H. MORSE, of Boston, Hurlbert's patent, with cast iron beam, No. 3. This did good work, but was heavy, and hard to hold, having a tendency to run out. The beam was thought by some too short for steadiness and uniformity of depth. The point had a too strong tendency downward, and the turn of the mould-board was too abrupt for ease of draft. To turn a furrow slice 8 inches deep by 14 inches wide, it required a force, as shown by the dynamometer, of 725 lbs.

Messrs. SMITH & FIELD, of Greenfield, Mass., tried their cylinder plow, Gibbs' patent, No. 2. It turned the sod over handsomely, with ease to the team. It was thought by some to hold hard, though it several times went without holding for nearly the whole length of the land plowed. The point is nearly straight with the shoe, and is made broad so as to cut under on the land side about an inch. The slope of the mould-board is unusually gradual, by which it is enabled to slide along through the soil with less resistance than any other plow on the field. Furrow 8 by 15 inches; force required, 475 lbs. Several of the committee thought this plow did not leave the soil in quite so fine a condition as some others. It did its work in so quiet and gentle a manner as hardly to disturb the relative position of the particles of the sod. The mould-board did not appear wide enough for deep work, the loose dirt running over the top at times when plowing only 7½ inches deep. With the skim plow attached, its performance was not so good. The committee are under obligation to Mr. Smith, the exhibitor, for active and valuable assistance rendered them in many ways.

Mr. TIMOTHY B. HUSSEY, of North Berwick, Me., exhibited his No. 4 plow, with wooden beam. This was a well-made and apparently strong plow, and did its work well. The mould-board was rather low for deep plowing. Furrow 8 by 15 inches. Force required, 687 lbs. It runs steady and holds easy.

Mr. JOEL NOURSE, of Boston, exhibited his new iron beam Universal Plow, No. 4. This plow is light, simple, of beautiful form, holds easy, and did its work remarkably well. It is made entirely of iron, with the exception of the ends of the handles, which are of wood, as being more pleasant to take hold of. It was exhibited in an unfinished state, (being a new pattern,) and some slight changes are intended in its construction. Judging from its appearance to the eye, there seemed to be no sufficient reason for its requiring a greater force to move it than did the cylinder, unless it is made of softer iron, which would cause greater friction. It did its work well, both single and with the skim plow attached, leaving the surface in fine condition. Furrow 7½ by 14 inches. Force required 587 lbs. With skim plow attached, same depth and width of furrow, draft 725 lbs., making a difference of 138 lbs. No doubt the difference in power required between the single and the Michigan plow would vary considerably in different soils, being less in loose, sandy land, than where there is a stiff, rooty soil, as the skim plow has to cut through the toughest part of the sod.

Mr. J. S. DOE, of Boston, exhibited a level sand and side-hill plow, Doe's patent, which turned the sod well for a side-hill plow; but it appeared too complicated in its construction. And there seemed to be strong grounds for the opinion expressed, that it should have been invented in the antediluvian times, when, as we are told, "there were giants on the earth," or that the giants should have descended to the present time; for surely no common man could handle this plow all day, unless on large fields where there would be little turning. Furrow 8 by 14. Force required 725.

Messrs. WHEELER & GARFIELD, of Concord, Mass., exhibited a side-hill Michigan plow, of a new pattern, which performed good work, with apparent ease to the team; but, unfortunately, in consequence of a flaw in the iron, the beam broke before it was tried by the dynamometer, and so its comparative ease of draft could not be ascertained. The Committee were led to believe that the plow will prove a success.

Mr. J. B. MOORE, of Concord, put in an old Nourse plow, Eagle 20, which did excellent work, but it required a force of 750 lbs. to turn a furrow 8 by 15 inches.

Mr. J. HARRINGTON, of Concord, tried his Nourse plow, Eagle No. 2, flat, which laid the furrow over very flat. Furrow 8 by 13; force required, 625.

Several of the plows exhibited are furnished with various mould-boards, &c., easily changed, so as to adapt them to different qualities and conditions of soil. This enables the farmer to have a plow suited to all circumstances, at much less cost than would be necessary to supply himself with a separate plow for each sort of work.

For the Committee,

MINOT PRATT, *Chairman.*

For the New England Farmer.

PAINTING AND SHELTER FOR BUILDINGS.

I recently met with a statement, the purport of which was somewhat startling to me, viz.: That "it required from five to ten per cent. of the original cost of a house once in five or six years to paint it." This was more than I had generally supposed the cost of painting to be, but it set me to thinking upon the matter. It costs nearly double to keep an unsheltered house painted, that it does one that is sheltered. The force of the winds cause rain, hail and sleet to batter with great force upon an unsheltered house, and whether it be painted or not, does far more damage to it than if surrounded by houses, as in a city, or well protected by trees in the country. It is a prevailing opinion upon our sea-coast that the saltness of the sea winds slacks the paint and causes it to come off much sooner than it would in localities remote from its influence. This may, in a small degree, be true. But I think in this case the general absence of protection to the buildings is more to be regarded than the saline action of the wind. Let us look at this question respecting the cost of painting and see if we can afford to do it.

If a plain two-story house of ordinary dimensions costs three thousand dollars, and put the estimated cost of painting at five per cent. on this outlay once in six years, we have an outlay of one hundred and fifty dollars every six years. As we are not in this estimate painting for the looks of things, but for economy, and only using paint to preserve the house from decay, we will see what the cost of covering the house will be at the outset. We will call the house thirty-two by forty feet, which is as large as can well be built for the price we have named; posts seventeen feet; roof three-fifths pitch. It will require about eighteen thousand of first quality shaved shingles for the walls, costing five and a half dollars per thousand, labor and nails added will make up the cost about one hundred and twenty-five dollars, or twenty-five dollars less than the cost of painting. If these estimates are correct, who is going to paint for the profit of it? Cut down, if you please, the cost of painting one-half of the above estimates, and how then stands the account? Paint once in six years will cost seventy-five dollars, and the shingles costing one hundred and twenty-five dollars. On the sides of a house they will last forty years.

Here we have a very simple question in arithmetic—paint for forty years, five hundred dollars, and shingles for same period one hundred and twenty-five dollars, or three hundred and seventy-five dollars less. If economy is our object, paint must go by the board, or some cheaper method must be resorted to. I should, by all means, keep windows and frames, doors and casing, corner-boards and other trimmings, well painted, as it is very expensive replacing them. If I did not like the looks of a dingy, weather-beaten house, I would resort to some of the many washes made of lime as their basis. Any desired color can readily be had. Properly made, and well put on, they will last almost as long as paint.

In the beginning of this article I have alluded to the effects of shelter upon paint and buildings. No man who claims to be governed by economy, can overlook the fact that proper shelter for his buildings is of great importance.

Plant evergreen and other trees at proper distance from your buildings, (none less than thirty ty to forty feet,) they will last longer, and if painted it will save you fifty per cent. annually in that article. This is not all. Every one is aware that a house exposed to the full force of our New England winter winds is a very uncomfortable house to live in, and that the fires are continually crying out for more wood, and the household how cold it is. Place around such a house the protection I have spoken of, and how great the change! The wind is broken of its force, and greatly mollified in passing the barrier we have reared, so that, by the time it reaches the dwelling, this roaring, blustering monster is almost entirely shorn of its strength. If we are farmers, and have domestic animals under our care, could they speak, no doubt their first utterance would be of gratitude for our thoughtfulness for their welfare in shielding them, as well as ourselves, from the furious blasts of winter. Whether we paint or not paint, can we afford to have our buildings unprotected by trees, if exposed to the full force of the wind?

Dorchester, Mass. O. K.

THE PYTHON AGAIN.—All hopes of hatching the eggs of the great serpent at the Zoological Gardens in London are now at an end. The frequent removals of the blanket in uncovering the eggs, and the occasional partial uncoilings of the snake, caused too numerous sudden changes of temperature for the proper development of the young. The effects of these disturbances attained a climax in the lengthened period of the snake's absence in shedding her skin, during which the eggs became completely cold. The necessity for their removal was not only apparent from the bad state they were in, but the impoverished condition of the python, diminished in bulk by at least one-third of her former dimensions, and her long absence from food, thirty-two weeks, naturally led to anxiety as to her ultimate safety, if she were allowed to hopelessly continue her sitting. The snake behaved spitefully during the operation.

THE RHODE ISLAND SOCIETY.—We have before us the "Transactions of the Rhode Island Society for the Encouragement of Domestic Industry, for the year 1861." It contains many interesting papers, and among them several containing reminiscences of leading inventors and mechanics who have taken an active part in the manufacturing interests in that State. There is, also, a paper on Hog Cholera, by Dr. EDWIN SNOW, of Providence. The pamphlet contains 150 pages, and is handsomely printed.

CULTURE OF BEES.

Within the six months just passed, we have noticed more said in our agricultural exchanges in relation to the culture of bees, than we have ever before seen in three times that period. When well informed on the subject, bee keeping is found to be not only a pleasant and attractive recreation, but a profitable one to the owner. A cheap, but tasty bee house, or a hive set here and there among the shrubbery about the house, has a wonderful home-like and interesting appearance. The curious habits of the bee, and the lusciousness of its products, have a charm for children which they never forget, if they have once visited the farm and enjoyed them.

A swarm soon becomes acquainted with those who have the care of them, and will cover the flowers of the garden or the farm in search of honey, and scarcely ever molest any one who is careful not to injure them. In picking raspberries and strawberries, it is rarely the case that any one is stung, though hundreds of bees may be visiting the blossoms for their rich treasures, at the same time.

We visited a bee master recently who informed us that he took *one hundred* pounds of honey from a single swarm, last fall. This swarm wintered well, while several others standing near were utterly ruined by mice.

The greatest drawback, however, in bee-keeping, is the destruction occasioned by the accumulation of their own breath and the exhalations of their bodies. These are much greater than many suppose, so that the stronger and more numerous the swarm is, the more danger there is to them from their own vapor. It is quite common to hear bee-keepers say, they have lost *their strongest and best swarm*, and the loss arises from the cause we have just stated, or, in other words, from *the want of proper ventilation*. Three-fourths of all the swarms lost, die from this cause.

For two years past we have used the *Maine State Bee Hive*, invented by Mr. R. S. TORREY, of Bangor, Me., and we have not only had no losses, but *have realized a profitable product from their labor*. The inventor seems to have been guided in his efforts by the habits of the bee in a state of nature, and has constructed for them a hive, which, in effect, scarcely varies from the hollow tree to which they usually resort. The ventilation is ample, and their *vapor is collected and led outside of the hive as fast as it is condensed*.

Another great merit of this hive is the cheap and simple mode of feeding the bees when a weak swarm requires it, or when transfers are made and honey and combs are taken from them. Near the top of the hive are several troughs, into which short tin tubes are inserted, through which honey or sugar and water are poured. The combs are attached to the under side of these troughs, so that it is only a few inches from the centre of the mass of comb to the top of the troughs. A glass is inserted over the feeding places, which enables the operator to see all that is going on.

The hive is so constructed that mice cannot get into it, and it has a simple and efficacious moth-trap, which any one can understand and use,—and it costs nothing.

Mr. Torrey devotes his whole time to the culture of bees, and is an intelligent enthusiast in his profession. He began the hunting and study of bees in boyhood, and often explored the forests of Maine, bringing home with him rich treasures of honey and swarms of bees from their native woods. The construction of his hive has grown out of his ample experiences with these interesting insects, both in a wild and cultivated condition, and seems to us to afford the bee all the convenience and safety necessary for it to work with facility and success.

For the New England Farmer.

VALUE OF MUCK.

A subscriber inquires if it will pay to draw muck at this time of the year? (the winter.) In answer, I would say that it has always paid me to get muck at any season of the year, when I can get at it. A little preparation is necessary to make it very convenient to draw it in the winter, and when this is done, the winter is the very best time to draw it, as then we have plenty of leisure time. It is far easier loading, and we can draw larger loads, when the ground is frozen and covered with snow. I have been in the habit of drawing out from one to two hundred loads annually, and at all times of the year, when most convenient. Of late years I have drawn considerable in winter, for the reason that it does not cost as much to do it then, and I have more time to attend to it.

We usually have a period of dry weather between the finishing of haying and winter, when I have the muck thrown into heaps as near the hard ground as possible, where the water will leach out of it. By the time that sledding comes, it is considerably dry, and as soon as I begin to fodder cattle in the yard or stable I draw it into the yard, spreading a coat all over the whole surface, also put a quantity in a small room, built off from the stable for the purpose, which I use for bedding the cattle in the stable. As soon as that in the yard becomes covered with straw and manure, I draw in another coating and so keep doing all winter. In this manner the manure is pretty well mixed, and all thoroughly saturated with the liquid manure, thus saving a great deal that would otherwise drain off. The heaps which I leave until winter I cover with weeds, buckwheat straw, or any refuse matter to keep them from freezing. I have sometimes applied the clear muck, with marked benefit, but think it is better to compost it with other manure. It may be applied clear on slaty or gravelly land, at the rate of twenty-five or thirty loads to the acre, and the increase of the first crop will not be as large as it would from the

same amount of barn-yard manure,—but its effects will be *more* lasting.

In 1850, I put about forty loads on a slaty knoll of about one and a quarter acres, and it can be discerned to this day just how far it was applied, by the difference in the growth of any crop planted or sown on it. As far as my experience goes, I think I am justified in asserting that manure composed of one-half muck, and the rest barn-yard or stable manure, will last double the length of time when applied to slaty or gravelly land that clear manure will. I am not philosopher enough to explain why it is so, but that *it is true*, I have demonstrated to my own satisfaction by experiments for several years past. The cost of it is but a trifle, compared with other manure, the cartage being the only expense, and that can be reckoned but little if done in winter. I also keep the hog-pen well supplied with it, and generally make about three times the manure from that source that I should otherwise get. The hen manure I mix with the muck, about one bushel to three, and use it to put in the hill for corn, &c. Every spring and fall I draw six or eight loads and put in a pile at the back of the house, on which all the wash-water, brine and refuse of the kitchen is thrown, and about once in a month I shovel it over, and occasionally throw on a little slacked lime or plaster and ashes, and thus make a plenty of manure for the garden, which is superior to any other kind for that purpose.

I should like to say a great deal more on the subject, for, like some of our muck beds, it is exhaustless, but as space in the *Farmer* is precious, I will leave the subject to abler pens. At another time I will give the results of some experiments which I have been making the past six years.

Rensselaer, N. Y., 1862. H.

SUBSTITUTE FOR LEAD PIPE.

We had occasion, a year or more ago, in an article on water pipes, to allude to the India Rubber pipe manufactured by the Boston Belting Company. We have nearly every week inquiries in regard to some needed substitute for lead pipe, which all are willing to concede is deleterious, but which is generally adopted even with the prejudices which exist against it.

The reader will find, in its proper place, an advertisement of this Semi-Elastic Pipe, and as the following letter from Mr. McBurney gives a fuller description of the article than the advertisement, we give it a place here:

MESSRS. EDITORS:—I would call attention to my patented "Substitute for Lead Pipe," advertised in your columns. It possesses every property requisite as a conduit of water in any and every place or position; unobjectionable in every way; is entirely free from any deleterious substance in its composition, and only needs to be known, to be universally used. It is, in fact, a real substitute for lead pipe. It may be used underground, or exposed in any way, and has been thoroughly tested in every position. It is not a hastily got up thing, nor was it produced at a mere thought. I experimented nearly five years, at various times, before a promising sample was produced. I then tested it for three years before offering it for sale. "Apothecaries seldom take their own compounds," and "A prophet is not without honor," &c., but I have used my own pipe to conduct water for the use of my family and myself for over five years, and I have the certificates of immediate friends and neighbors, who have used it for one, two, and some three years, and they would not now willingly give it up. I have also two lines of 3-inch pipe, containing 7000 feet each, buried underground, which have been in use seven years, conducting water from a brook to a cistern to supply steam-boilers, which still continue good. It costs but very little more than lead pipe per running foot, and can be united by various simple and inexpensive methods. CHAS. MCBURNEY.

Roxbury, Mass., March 27, 1862.

For the New England Farmer.

BAROMETERS.

MR. EDITOR:—A subscriber from Cornwall, Vt., inquires in the last week's *Farmer* whether "Barometers are to be depended upon at all times, or do they, like signs in dry weather, sometimes fail?" Now, if I knew the true address of "Subscriber," I would not trouble you, but write direct to him, and say that I have had a barometer some four years, and watched it with interest, by the directions of Jas. W. Queen, and I have come to the conclusion that they are really of very little practical use to the farmer, as all I can make of it is a sign of fair weather when it is rising, and a sign of rain when it is falling. Like all other signs, it fails very often, and generally, the indications precede the change of weather so short a time, that it can hardly be said to have foreknowledge, and that is all that would make it of any account. True, it will commence falling twenty-four hours before a storm, sometimes, and then it will frequently fall as much, and no storm follow, or it will begin its fall with the rain, simultaneously. Its indications are to be taken in combination with so many circumstances of wind, &c., that, like phrenology, none but experts can make anything of it. I have been pained to see articles from the pen of men of the wonderful influence of Henry Ward Beecher, or Simon Brown, which indicated that there would be no danger of any farmer getting his hay wet, if he had a barometer, as it would give him seasonable notice. But that is a mistake. I have known it to rise a tenth of an inch one day, and a rain storm commence before sunrise the next, and I consider it simply robbing the farmer of his hard-earned money to induce him to buy a barometer. A. G. DEWEY.

Quechee, Vt., April 16, 1862.

REMARKS.—We have always been guarded in what we have said of the barometer. Have no recollection of ever saying "That there would be no danger of any farmer getting his hay wet if he had a barometer." We do not think of any thing we have said, or written, in relation to the barometer, that we desire to recall. And yet, if we have said, or written any thing that should tend to deceive the farmer, or that should, in the slightest degree, misrepresent facts, it would give

us pain. While we think our correspondent has mistaken us in the matter, we sincerely thank him for the vigilance he exerts for the protection of the farmer.

We have plenty of evidence that the barometer is a valuable help to the farmer, and we believe valuable to the extent of several times its cost. While looking over our exchanges, we came across the following:

USE OF A BAROMETER IN FARMING.—John Underwood, Esq., of Aurelius, says the Auburn *Advertiser*, secured his entire crop of hay last summer by consulting the barometer. The morning on which he began cutting his hay, looked cloudy and felt like rain, still the barometer pointed unerringly to dry weather, and on the strength of that he sent in his Kirby. The hay was cut, cured and secured, before any rain made its appearance. But for the barometer, the hay would have been entirely ruined. Who doubts that the instrument paid for it itself by that one item of information?

An elderly gentleman, a progressive farmer, has just left us, who remarked, voluntarily, on seeing a barometer hanging in our room, "I use one of these, but I can't always rely upon it. But it pays for itself every year, and I should not think of parting with it." We consider this a fair judgment. The instrument is not infallible, at least, not in our present knowledge of it, and yet, may be such an indicator as to save the farmer many times its cost.

EXTRACTS AND REPLIES.

LICE ON CATTLE—CATTLE CHEWING BONES, &c.

I wish to inquire through your columns if any of your numerous readers can inform me of a safe and certain way of killing lice on cattle. I have fifteen head, all of which are more or less afflicted with them.

I have tried several remedies, none of which have proved satisfactory. Some are not effectual in killing *all* the lice; others it is nearly impossible to apply extensively enough to accomplish the object desired, and still others would kill both animal and louse.

What we want is, a remedy that is safe, certain and practicable.

My cattle, also, have a habit of gnawing sticks, boards, chips, and, in particular, bones, and pieces of leather, when they can find them. What is the cause? and cure? YEOMAN.

Laconia, N. H., 1862.

REMARKS.—A judicious use of the mercurial ointment, called unguentum, will certainly destroy the lice, and will not endanger the health of the animals. It must be used sparingly, and patiently rubbed down to the skin. For some days after its application the cattle should not be exposed to storms, or become chilled. Farmers do not examine their stock sufficiently often. If they did, and would apply a little oil or grease when vermin first make their appearance, they would seldom find cause of complaint.

We have said about all we can, in former numbers of the *Farmer*, about cattle gnawing bones. It is because they feel the need of something they do not get. Give them a little bone-dust. If you cannot get that ground in a mill, dry a few bones and reduce them as fine as you can with sledge or hammer, and feed to them. Give them access to wood ashes, to the bare ground, to salt, and to as much good hay, water and grain as they need, and they will be quite likely to cease chewing bones and old leather.

TANNING SKINS.

While on a visit to my friends at Lempster, N. H., your interesting and valuable sheet of May 3 was carefully perused by me. I candidly confess I was much gratified that a paper could be so arranged as to convey to all classes reading matter of the first importance, not only to the farmer, but mechanic, merchant, men of leisure and of study, questions on various topics, calculated to interest the mind of its readers in morals, and science of every kind.

A receipt is asked for by one of its readers for a tanning for skins, and retain the fur.

Receipt No. 1.—Take 1 lb. sal soda, 1 oz. copperas, 4 oz. sulphuric acid, dissolve in 2 quarts of warm soft water.

No. 2.—1 gallon lye, 1 oz. sugar of lead, 1 oz. copperas, 1 oz. prussiate of potash, dissolve in 2 gallons soft warm water.

Apply to the flesh side, No. 1, from 5 to 10 minutes; No. 2, twice as long, according to the thickness of the skin or pelt.

TO CURE SCRATCHES ON HORSES.

Take 1 lb. mutton tallow, 2 oz. beeswax, 1 oz. calomel, simmer them together, then wash the animal on the affected part with castile soap, after applying a little weak lye; this has proved almost a universal remedy.

The above receipts may prove of some benefit to your many readers. One of my relatives, Gorham Pollard, Esq., of East Lempster, has been a subscriber to your paper, for some seven years; he says he finds as correct, early, and late reading news as in any publication extant. H.

Lempster, N. H., 1862.

BARREN GRAPE VINES.

I have two grape vines that blossom imperfect blossoms. How are they to be treated? D.

REMARKS.—Dig them up and replace them with fruitful plants. They are lacking the pistil, or female organ of the blossom, and can never be made productive.

TRAINING COLTS.—Lambert Maynard, owner of "Trotting Childers," who has had much experience in raising and training colts, states that "his colts are all broken to the harness before they are a year old, or as he more properly expressed it, educated. He rarely, if ever, uses a whip. As to its injuring them to use them so young, he remarks that he never exercises them so hard as they exercise themselves when alone."

For the New England Farmer.

DOES FARMING PAY?

If, as Sir Humphrey Davy says, "Agriculture is an art to which we owe our means of subsistence," then the above question, from one point of view, is the most absurd one which can be imagined. For, if it pays to keep body and soul together, it certainly pays to provide the food by which we are enabled to perform this daily miracle. If all the inhabitants of the earth should today resolve not to eat or drink anything which is produced by agriculture, or earth-working, how long would it be before famine and starvation would overtake them? They might possibly exist one, two or three years on the flesh of wild animals and birds, on fish, and the fruits which grow spontaneously, but when these kinds of food became scarce, as they would very soon, in some localities, what would they do? They must either perish with hunger, or return to the cultivation of the ground. If those who pretend to consider farming an unprofitable business, and are inclined to look down upon the poor earth-worker, would try to live and "keep house" entirely independent of the farmers' labors, it would not be many months before their tune would be changed from a major to a minor key.

Agriculture is the art which sustains human life; it must therefore be profitable to every individual whose life is not devoted to evil doing, in which case existence itself is more of a curse than blessing. But is the farming business profitable in a pecuniary sense? This is a question of much importance, but not so great as many others which might be proposed concerning the farmer's occupation. Facts prove that with the same amount of capital, the same amount of exertion, energy, patience, wisdom and knowledge, farming is as good a business by which to make money as any other. But in this, as in every other pursuit, some persons will become wealthy, while others, with equal advantages, will come to poverty. There are two men within the circle of my acquaintance who are an illustration of the truth of this assertion. One of these men commenced farming with a farm worth $2500, with $1000 at interest, but in a few years he succeeded in getting rid of the whole of his property, by ignorance and indolence. The other man bought a farm worth $4000, and was in debt $1600. In four years he made enough, by hard labor upon the farm, to pay all the debt, and is now a rich man. There are others with whom I am acquainted, who have acquired a handsome property by farming, and others still, who have remained poor, or have become so while engaged in the same business. But in every instance which I can call to mind, the degree of success in acquiring property by farming, has been in proportion to the amount of determination, industry, economy, good judgment and knowledge which has been manifested in the undertaking; and it is just so in all kinds of business.

I think it may be laid down as a rule, that success in amassing wealth depends not so much on the kind of employment which a person may be engaged in, as upon certain qualities of the mind, with which some individuals are much more largely endowed than others. Phrenologists say, that a large bump of acquisitiveness, with a proper combination of some of the other organs of the mind, will enable a man to become rich in circumstances wherein others, who have not the organization, will soon become candidates for the almshouse.

I do not consider that a money-making character is one to be coveted, for very frequently, the possessors of such a character have faculties for nothing else but hoarding up treasures of gold and silver. There are other objects of life, the pursuit of which confer far greater and more lasting happiness upon the individual and the world, than the mere accumulation of dollars and cents, although this is important in its place.

South Groton, 1862. S. L. WHITE.

For the New England Farmer.

HOW IS THE WORLD TO BE FED?

BY JUDGE FRENCH.

It seems to be agreed among those who know most about the matter, that the Union army now in actual service, exclusive of wounded and discharged soldiers, and those held as prisoners by the rebels, exceeds a half million of men. The most of these are from the classes of laboring men, and a very large proportion of them from the farms. The rebel army numbers probably two-thirds as many, comprising, in the language of Tom Moore,

> "Christians, Mohawks, Democrats and all
> From the rude wigwam to the Congress-Hall,
> From man the savage, whether slaved or free,
> To man the civilized, less tamed than he."

Although the Southern army is not composed so exclusively of working men as the Northern, yet the effect of raising it is probably to disturb the system of agricultural labor more than it is disturbed by the departure of our own volunteers. The white men are away from their plantations, and the slaves, if they remain, are of course idle and reckless. Freemen of all classes have been forced into the ranks, leaving their business, whatever it might be, to destruction. Slaves have been taken under military requisition, wherever they could be made useful, and set to labor on the fortifications, and even to work the guns. Besides this, in all Virginia, all along the coast, in all the region where either army has encamped, or near where it has marched, all is barren as a desert. No man plows or plants where he has no assurance that he can gather his harvest, and we can hardly suppose that much provision for the future can have been made, anywhere in the Southern States.

Who then is to feed this country, with all the South running riot and destroying her own substance; with nearly a million of men in arms, consuming wastefully the necessaries of life, and with agriculture thus deprived of so large a portion of her labor? We are not of the croaking kind, and we have great faith in the productive capacity of

the great West, yet we know that none of the staple crops, of corn, wheat or roots used for food, are spontaneous, and therefore that the amount raised the present year must fall vastly short of the usual product. No doubt, the fiat of the rebel Congress and Governors, by which planters have been forbidden to raise more than a limited amount of cotton, will increase the product of corn in some localities, yet this can by no means compensate for the wide-spread desolation brought upon their land by this wicked rebellion.

We have daily accounts even now of the vast quantities of wheat and corn in store at the West. Only a few days ago, an article went the rounds of the papers containing calculations as to the comparative cheapness of coal and Indian corn *as fuel!* and we have before us now, a paper in which it is demonstrated by a Western farmer, that it is cheaper to feed out corn to sheep, than to sell it at ten cents a bushel, because it costs forty cents a bushel to transport it from the far West to New York, whereas forty cents worth of wood can be sent there for half a cent.

Such statements must seem to readers in the Old World like fairy tales. Indeed, the stories of Sindbad, the sailor, are hardly more wonderful than these accounts of the wealth of our country in corn; and if we should add to this, a history of a part of the country where it is almost unsafe to dig a hole in the ground, lest *oil* should spout up and drown you before you could get out of the way, we ought hardly to expect to be believed!

With all allowance, however, for Nature's prodigality, we venture to predict in the course of next winter much suffering for want of food in this country. The North and West can feed themselves, and will have a surplus for those who can buy. The insane course of the South, in destroying her cotton and tobacco, and the general disorganization of all her business, will render it impossible for her to buy. If we desired to humiliate the planters of the South, and render them powerless for years, we could do it in no way so effectually as to make them poor, for a man in debt, a large family, white or black, dependent on him for daily bread, with no means to supply their wants, is a pitiable object, and none the less so, if his own folly has brought his sufferings upon him.

The cotton planters are always in debt to about the amount of one crop. This rebellion found them in that condition. The crop which should have paid that debt is wasted and burned, and no other crop is growing to replace it. Their substance is dissipated, their labor disorganized, their currency ruined, their debts are overwhelming. A national bankrupt act will, by and by, pay their debts, and Northern men will lose the amount, but then the planters will have neither money nor credit, even if land and slaves remain. The question is not, now, however, as to the remote future, but how is the South to be fed next winter? We say it in no spirit of boasting, but we believe that Northern charity will be invoked to their aid. There may be food enough in the South even, for all. There was food enough in Ireland, when millions were starving, to feed her whole population, but it was sold to those who had money wherewith to buy, and not distributed, with the even hand of charity, to all.

So must it be at the South. The half million of men in arms or otherwise, concerned there in this rebellion, discharged utterly destitute, from the ranks of the army, and from labor on the public works—how are they and their families to be fed?

With their farms well tilled by the boys who have staid at home, and their purses well filled with the wages so nobly earned in their country's service, our soldiers will find their homes set in order for their return, but desolation and poverty must meet the returning rebels.

It is idle to think of finding a market at the South, as our Northern traders are finding at Nashville, where everything is wanted, but there is nothing to pay with but confederate scrip. We should give them corn for cotton, but these fire-worshippers have sacrificed their King to their new Moloch, and will have little cotton to spare, so that we can do little for them in the way of trade.

How much surplus food this country has heretofore produced, nobody will ever know. We have supplied ourselves and our animals, and all foreign demand, and the granaries of the West are yet full. It is stated in a paper of May 10th that "over 2,000,000 bushels of grain arrived at Buffalo between Friday night and Monday morning last. It was the largest grain fleet that ever arrived at that port." This quantity would supply an army of half a million men with nearly a barrel of flour each! The accounts from England thus far are not encouraging for their growing crop of wheat, and they will probably draw on us for a large amount.

The prospect, on the whole, is, that somebody will want all that we can raise upon our farms. If the South are in want, they will look in vain across the sea to their sympathizing friends for succor. The charity of the British government, which would gladly have seen this rebellion prosper till it divided into two feeble rival nations the great republic of the West, will grow cold towards defeated rebels, and we shall be sneeringly told to feed our citizens, now that we have conquered them. We believe that day will come, before another year, when the North will respond as nobly to the call of the South for bread, as she responded to the call of liberty and law, to arm in their

defence; and the world will see that we are as ready and as able to feed the hungry, even in the States now in rebellion, as we are to strike down treason and to defend the right.

For the New England Farmer.

LITTLE THINGS:

OR, A WALK IN MY GARDEN.

It is said by some one of Peter the Great, that "nothing is little to a great man." The mind is exhausted by infinity when it examines a pebble, as when it explores a world. Much of our success in life depends upon the observance of little things. The teacher who would be successful in his calling, must be critical in everything. The farmer who suffers little things to pass unnoticed about his premises, is sure to be an unsuccessful farmer. I was meditating upon these things, while walking in my garden this morning over snow-banks ten feet high, and looking at the tops of my

PLUM TREES.

The present winter has been very destructive to the smaller trees and shrubbery in this State. It was so last winter. The labors and hopes of many were in ruins as spring approached. The idea of low dwarf pear trees, in this vicinity, is out of the question. They are stripped to pieces unless tied up in the most careful manner. Had I attended to this little duty, I might possibly have saved them. While looking at the prospect before me, one of my boys joined me, and wanted to inquire about the poisonous properties of the shrub known as

DOG-WOOD.

He said that he once had a couple of young deer, and at a certain time he gave them some branches of dog-wood to browse, from the effects of which they died. I have since been told that this shrub is poisonous to most animals. Is this fact generally known?

THE REBELLION.

There is one little thing to be thought of in regard to the course the South will take after the rebellion is crushed. How will they act? I think that if they cannot do quite as well as the North, they must do as well as they can. It reminds me of an old colored man who once lived in Pembroke, N. H., and who was known by the name of Eben. It happened once on a time that his wife got intoxicated, and laid down by the fence in the road where many people were passing by. Eben felt a little mortified, and tried to make her rise up, which she was not inclined to do. "Git up," said he. "Git up, and 'have yourself. If you cannot 'have as well as I do, 'have yourself as well as you can." N. T. T.

Bethel, Me., April 12, 1862.

WARTS ON CATTLE.—A correspondent of the *Genesee Farmer* gives the following remedy for warts on cattle: Slake a piece of lime the size of a hen's egg, add four table-spoonfuls of soft soap, stir the same until well mixed. Apply the same to the warts. They will disappear in a few days, and the skin become smooth.

For the New England Farmer.

ABOUT PEARS.

Many cultivators of fruit, in this part of the country, as I learn from conversation with them, have become somewhat discouraged in their attempts to raise pears. It really seems to me, that, for a period of several years, the winters, with the exception of the one just now past, have been unusually severe for pear trees, in common with some other fruits. I commenced the cultivation of fruit some twenty years ago, and since that time have tried about seventy-five different varieties of the pear, making out my lists from the recommendations of distinguished cultivators, horticultural societies and the pomological Congress. Of that number—very small it is too, when compared with the number under cultivation by such men as Mr. Wilder, Mr. Hovey, Mr. Barry, and many other amateurs—the varieties upon which a moderate share of reliance can be placed, for people hereabouts to cultivate, are, indeed, "like angels' visits, few and far between."

I have been cherishing the hope—delusion, as some of our good people about here would probably call it—of finding out some few varieties that can be successfully cultivated, away up here in New Hampshire, among the rocks and hills; for I have never had a doubt but there are such varieties, and if nothing comes of my own attempts, I hope some more fortunate worshipper at the shrine of Pomona will find the desired ones, and, "when found, make a note of it." I have some crude notions of my own—vagaries, if that word suits better—in regard to the selection of varieties, and methods of cultivation; and I intend at some future time, Mr. Editor, to give you, or somebody's else readers, a more extended result of my observation and experience, when they shall have become more fully matured, unless the process blow all my preconceived notions and theories "higher than a kite."

If I were asked the question, "What pear, if limited to one variety, would you select for cultivation, as far North as you are?" I should unhesitatingly name the Flemish Beauty. It stands the winter admirably. I purchased a tree in 1845 for the Beurre Bosc, which proved to be the Flemish Beauty. This is the oldest tree I have of that variety. This tree, as well as all those propagated from it, has never suffered any injury from the winter, except in two instances—the winter of 1856–'7, and the one a year ago, that of 1860–'61. It now seems to be in perfect health. A neighbor of mine has a splendid tree of this kind, not so old as mine by a number of years, that produces bountiful crops of superb fruit. A friend of mine living in an adjoining town, who had quite a collection of pear trees, told me a few days ago, that, the winter before the last, he lost every pear tree he had, with the exception of the Flemish Beauty.

The Urbaniste, in point of hardiness, stands decidedly at the head of all pears I have as yet in my collection. It is of slower growth than the Flemish Beauty, and more tardy, in coming into bearing. Should this variety prove sufficiently productive, it will be a great acquisition to the list of hardy pears. From my own experience, I can see no reason, why these two varieties, so far as the growth and health of the trees are concerned, may not be cultivated, with as much success, and

with as little risk, as the apple. I think either of them, is hardier than some varieties of the apple, the Baldwin, for one.

I have thought a plan of this kind would be a good one, and I think it might well be tried by those persons, if there are any such, who are interested in the cultivation of this fruit, and who, not having met with as good success as they expected, have become somewhat discouraged, and have about come to the conclusion that pear culture is a failure. Select a piece of ground that has not been continually cultivated. A square rod or more, acording to the number of trees you wish to put out, near the gate where you turn your cattle into the pasture, which has been enriched by their continual droppings, would be an excellent spot. Prepare this, or any other piece of good, new land, as you would for any valuable crop, cabbages, for instance. Procure young and healthy trees of one year's growth from the bud or graft, twice as many as you may need—the overplus, will be wanted by some of your neighbors,—and set them in rows, to suit your convenience, say 3½ feet between rows, and two feet or more between trees. Put no manure among the roots. You can manure on the surface as much as you please. Keep the ground mellow, and free of weeds, by constant cultivation, or the whole surface thoroughly mulched. If you think your ground needs farther enriching at any time, the best way, and the best season, is to spread a coat of manure, with a sprinkling of ashes, on the surface, late in autumn, and let it lie all winter. It may be removed in the spring, or forked in near the surface. If there is danger of the trees being thrown out by the frost, a heavy coat of mulch will remedy that. If they stand where the snow would be likely to break them down, train them in single shoots, stick a small stake perpendicularly, close to them, and tie them in several places fast to it. Let the trees remain till of suitable size for their final removal to the garden, or orchard.

In pursuing this course, several advantages will readily occur to the mind. The original cost and transportation will be small. They are more likely to live and grow well than larger trees, where they have to be procured from a distance. You can train them in a form to suit yourself, with branches high or low, by preserving or cutting back the leading shoot. When of suitable size to remove, you can select a good time for that purpose —a dull or misty day—can remove them one at a time, as convenient, without exposing the roots to drying weather, and you will have no breaking and bruising of the limbs by the rough handling on railroads. You will get better roots, for pear trees, as they are usually managed, with only one transplanting, that from the seed-bed to the nursery rows of a rich, deep trenched soil, are inclined, oftentimes, to grow with long, naked roots, Every removal promotes the growth of healthy, fibrous roots.

I have great confidence in setting young trees, and am preparing myself to supply the demand, should there be any market for them hereafter. The trees I now have growing, will be worth more to me, to grow a year or two longer. I will, however, supply a few for trial, of some good varieties, that succeed well here, such as Flemish Beauty, Urbaniste, Beurre d'Amalis, Rostiezer, &c. I have a few Bartletts, but would not recommend them except to those living in a favorable locality. They will do nothing with me; are very tender, and exceedingly liable to winter-kill. I can raise small trees because they are usually protected by the snow, which now, (April 18,) covers my nursery, in many places, from one to two feet deep.

Wakefield, N. H., April 18. JOHN COPP.

REMARKS.—We shall be glad to hear from our correspondent again.

PROSPECT OF CROPS IN ENGLAND.

The following articles are from the *Mark Lane Express*, a paper published at London, and devoted, exclusively, to the agricultural interests. These articles indicate that a very large amount of our agricultural products will be needed in England and France, so that there is every reason why our farmers should engage earnestly in seeding and cultivating. This, added to the fact that large numbers of our productive men are in the army, and consequently withdrawn from the cultivation of the soil, ought to be a sufficient stimulus for us to produce all we can.

The paragraph which follows is from the *Express* of April 14, and certainly presents rather a gloomy prospect for our transatlantic brethren:

The increasing wetness of the past week looked very ominous for the entire season. March having been rainy, it was to be hoped that the present month would have been genial and drier than usual, but the soil has now become flooded in low situations, and so generally saturated, that field labors were impracticable: warm and dry weather is seriously wanted. The grass and early sown corn have indeed been rapidly growing, but the latter is in danger of running into straw, and the wheat that was most forward was getting rank and spindly. But the weather has lately gone round to the other extreme, and much harm may now result from the sharp frost. We have, therefore, become much more dependent on foreign supplies, and there is already a greater firmness in the trade, notwithstanding good stocks and heavy arrivals, more especially of American flour.

The following, a week later, does not seem to promise much more for the crops than the foregoing:

The past week has varied, the opening being cold and harsh, followed by a heavy rain, and closing with a more genial temperature. The effects of the late changes have plainly told upon the growing crops, much of the wheat having become yellow and unhealthy in appearance; but, on the whole, a check to its luxuriance may be serviceable. More wire-worm has, however, been complained of, as well as misplant, and the first severe frost after so much rain, must have cut the pear blossoms and earlier fruit.

In the last number of the *Express* which we have received, and dated April 28, we find the paragraph which follows. This looks a little more encouraging, but still leaves room for some anxiety in regard to the crops in Europe:

The past week has been highly favorable to the growing crops as well as to all field labors. The sowing of Lent corn has proceeded rapidly, and, though late in the ground, in this uncertain climate the last sown, may, in point of yield, be first. But the changeable character of the season is exhibited in the appearance of the young wheat. The clays in low situation having been swamped by the wet, look yellow and sickly. In the light soil there is much misplant through wireworm, while the medium soils well in heart are yet full of promise, and the ripening of such may be early. The reduction of stocks, however, in farmers' hands becomes more evident, and the scanty provision sent by the near counties to the London market looks very much like exhaustion, as prices, considering the deteriorated condition of samples, are not low. Nor is London alone in limited supplies: many of the country markets have been getting very thin, insomuch that several have noted an advance of 1s. per qr.

LADIES' DEPARTMENT.

A BIRTH IN THE FAMILY.

It is strange how, while one soul is passing out of this world, another enters, all unconscious of the strange scenes of confusion which it is to witness, of the hand-to-hand struggle in which it is to be engaged. For some time, various small preparations and signs have given token of an expected event; a pair of bright, dark eyes have grown soft and thoughtful, crochet and brilliant-colored double zephyr have been thrown aside for tiny strips of cambric, fine soft flannel and white silk floss, the last of which the delicate hands weave into charming imitations of leaves and flowers. Very recently a small dainty bed, enveloped in the fleecy folds of a transparent canopy, which only half conceals marvellous frills and a perfectly miraculous quilt, (the work of Aunt Deborah, who once took a prize at the State Fair, for the handsomest coverlet on exhibition,) has taken its place, timidly, at the foot of the imposing mahogany, evidently awaiting for an occupant. This very morning it has found one, a tiny, rosy morsel, so done up in soft, warm wrappings, that no one can but just get a glimpse of a little red nose, and the twinkle of something like eyes. Everybody says, however, that it is a "beautiful baby," and the delighted papa astonishes a small boy who has rung the front door-bell for cold victuals, by giving him a quarter, instead of a cuff, as usual.

The dark eyes which but lately flashed so mischievously are now closed wearily, curtained by long lashes, which lay still on the white cheek. Friends have congratulated; the proud father is full of tenderness and devotion; cherished hopes are realized. Yet at intervals a large tear forces its way down through the tightened eyelids, showing that one heart at least can hardly yet recognize its joy. Who shall fathom the depth of a young mother's thoughts as she holds for the first time, the child she has borne, to her breast? Who shall tell the profound emotion with which she dimly sees in her anticipated toy, the plaything, a human soul, a future man, whose strong will and fiery nature it is hers to mould for good or ill? Now, for the first time, she feels that she has become a woman; that with a woman's crown, she has received the woman's cross, which she is henceforth to bear with enduring love and faith unto the end. Now prays she with the fervor of her youthful heart, though it may be perchance for the first time, for with the birth of her child a new element has entered her heart, a new spirit has been born unto God.—JENNIE JUNE, *in N. Y. Sunday Times.*

WOMAN.

Place her among flowers, foster her as a tender plant, and she is a thing of fancy, waywardness and sometimes folly—annoyed by a dew-drop, fretted by the touch of a butterfly's wing, and ready to faint at the rustle of a beetle; the zephyrs are too rough, the showers too heavy, and she is overpowered by the perfume of a rose-bud. But let real calamity come, rouse her affections, enkindle the fires of her heart, and mark her then; how her heart strengthens itself—how strong is her purpose. Place her in the heat of battle—give her a child, a bird—anything she loves or pities, to protect—and see her in a relative instance, lifting her white arms as a shield, as her own blood crimsons her upturned forehead, praying for life to protect the helpless.

Transplant her in the dark places of earth, call forth her energies to action, and her breath becomes a healing, her presence a blessing. She disputes, inch by inch, the stride of the stalking pestilence, when man, the strong and brave, pale and affrighted, shrinks away. Misfortune haunts her not; she wears away a life of silent endurance, and goes forward with less timidity than to her bridal. In prosperity she is a bud full of odors, waiting but for the winds of adversity to scatter them abroad—pure gold, valuable, but untried in the furnace. In short, woman is a miracle—a mystery, the centre from which radiates the great charm of existence.

VEAL PIE.

Take about two pounds of veal from the loin, fillet, or any odd pieces you may have. Parboil enough to clear it of the scum. If it is to be done in a pot, make a very light paste, roll it out rather thick, and having your pot well greased, lay it round the sides, cutting out pieces to prevent thick folds, as the circle diminishes. Put in a layer of meat, with salt and pepper. Enrich it with butter, or slices of salt pork, and dredge in a little flour. So proceed until you have put all in. Cover with paste, and cut a hole in the top for the escape of the steam. Pour in a portion of the water in which the meat was boiled. Set it over a slow fire; watch that it does not burn; and if it gets too dry, add more of the same water, through the hole in the top. If you wish the crust brown, cover the pot with a heater or bake-pan cover. It will be done in an hour and a half.

If the pie is *baked*, make a richer crust, in the proportion of a pound of butter to two pounds of flour; put it in a pan, in the same manner as above; notch the edges of the paste handsomely, and bake about the same time.

To make the paste spoken of above, take three pounds of flour, to which allow a pound and a half of butter, or other shortening. Divide the butter in equal parts, and rub one portion into the flour.

As soon as you put the water in, stir it up quickly; and having sprinkled flour on your board, turn it out, sprinkle flour on the top, and roll it out, pressing the rolling-pin equally, so as to make it of equal thickness. Cut the butter in thin shavings and spread over the whole surface; dredge with flour and roll it up. Roll out again; and proceed as before, until all the butter is used; but see that you have taken it all in three times—for that is enough. This makes an excellent paste, and can be used to advantage in other dishes, where a like article is required.—*Cook's Manual.*

STOPPED WORRYING AND BEGAN TO LAUGH.—A clerical friend, at a celebrated watering-place, met a lady who seemed hovering on the brink of the grave. Her cheeks were hollow and wan, her manner listless, her step languid, and her brow wore the severe contraction so indicative both of mental and physical suffering, so that she was to all observers an object of sincerest pity.

Some years afterward he encountered this same lady, but so bright, and fresh, and youthful, so full of healthful buoyancy, and so joyous in expression, that he questioned himself if he had not deceived himself with regard to identity.

"Is it possible," said he, "that I see before me Mrs. B., who presented such a doleful appearance at the Springs, several years ago?"

"The very same."

"And pray tell me, madam, the secret of your cure? What means did you use to attain to such vigor of mind and body, to such cheerfulness and rejuvenation?"

"A very simple remedy," returned she, with a beaming face. "I stopped worrying, and began to laugh; that was all."

SCALDS AND BURNS.—The best, most instantaneous and most accessible remedy in the world, is to thrust the injured part in cold water, send for a physician, and while he is coming, cover the part an inch or more deep with common flour. The water gives instantaneous relief by excluding the oxygen of the air; the flour does the same thing, but is preferable, because it can be kept more continuously applied, with less inconvenience, than by keeping the parts under water. As they get well, the flour scales off, or is easily moistened and removed. If the injury is at all severe, the patient should live mainly on tea and toast, or gruels, and keep the bowels acting freely every day, by eating raw apples, stewed fruits, and the like. No better and more certain cure for scalds and burns has ever been proposed.

THE English girl spends more than half of her waking hours in physical amusements, which tend to develop and invigorate and ripen the bodily powers. She rides, walks, drives, rows upon the water, runs, dances, plays, sings, jumps the rope, throws the ball, hurls the quoit, draws the bow, keeps up the shuttle-cock—and all this without having it pressed forever upon her mind that she is thereby wasting her time. She does this every day, until it becomes a habit which she will follow up through life. Her frame, as a natural consequence, is large, her muscular system in better subordination, her strength more enduring, and the whole tone of her mind healthier.

THE CATTLE MARKETS FOR MAY.

The following is a summary of the reports for the five weeks ending May 24, 1862:

NUMBER AT MARKET.

	Cattle.	*Sheep.*	*Veals.*	*Shotes.*	*Fat Hogs.*
April 25	1015	1778	150	2300	300
May 1	1728	3984	500	2000	700
May 8	980	2470	250	1000	1200
May 15	1518	2118	400	400	400
May 22	1200	1535	250	1300	500

According to these figures there were at market during the last five weeks 6441 cattle. Of these, 4846 were from the West, or purchased in Albany, leaving only 1595, or less than one-fourth of the whole, as the number from New England and the Northern part of New York. Most of the cattle from the West are well-fatted beeves. Some thirty milch cows are, however, included in the number of Western cattle reported for the last three weeks.

PRICES.

	April 24.	*May* 1.	*May* 8.	*May* 15.	*May* 22.
Beef cattle, ₩ lb	5 @7	5½@6½	5½@7	5½@7	5½@6½
Sheep, wool on, live wt.	4½@5½	4½@5½	4½@5½	4½@5½	5 @6
Sheep, clipped, live wt.	3½@4	3 @3½	3 @3½	3½@3½	3½@4
Swine, stores, wh'sale	3 @5	3½@5	3 @5	4 @6	3½@5
" " retail	4 @6	4½@6½	4½@6	4½@7	4½@6
Live hogs	@	4 @4½	3½@4½	3½@4½	@4
Dressed hogs	@	5 @5½	4½@5½	5 @5½	@5
Veal calves	$3@6	$3@5½	$2½@5½	$2½@5½	$3@5

A CURIOUS EXPERIMENT.—Take a piece of paste-board about five inches square, roll it into a tube with one end just large enough to fit around the eye, and the other end rather smaller. Hold the tube between the thumb and finger of the right hand (do not grasp it with the whole hand;) put the large end close against the right eye, and with the left hand hold a book against the side of the tube. Be sure to keep both eyes open, and there will appear to be a hole through the book, and objects seen as if through the hole, instead of through the tube. The right eye sees through the tube, and the left eye sees the book, and the two appearances are so confounded together that they cannot be separated. This is one way to see through a millstone. The left hand can be held against the tube instead of a book, and the hole will seem to be through the hand.

BE KIND TO YOUR SISTERS.—Boys, be kind to your sisters. You may live to be old, and never find such tender, loving friends as these sisters. Think how many things they do for you; how patient they are with you; how they love you in spite of your ill temper or rudeness, how thoughtful they are for your comfort; and be you thoughtful of theirs. Be ever ready to oblige them, to perform any little office for them that lies in your power. Think what you can do for them, and if they express a wish, be ready to gratify it, if possible. You do not know how much happiness you will find in so doing. I never knew a happy, respectable man who was not in his youth kind to his sisters.

☞ A large number of Germans are about to emigrate to this country, and will settle in Illinois, Wisconsin and Minnesota. This immigrating party consists principally of wealthy land-owners, and among them are several barons. About twenty thousand acres of land have already been purchased for them in the three States named, and it is expected they will arrive by the middle of July.